MIND

A QUARTERLY REVIEW
OF
PSYCHOLOGY AND PHILOSOPHY

EDITED BY
PROF. GILBERT RYLE

WITH THE CO-OPERATION OF PROF. SIR F. C. BARTLETT AND PROF. C. D. BROAD

CONTENTS

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I.—ESCAPISM: THE LOGICAL BASIS
OF ETHICS

By P. H. NOWELL-SMITH AND E. J. LEMMON

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But for the benefit of readers who have not seen Prior's paper
the calculus will be briefly outlined.

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the operators O and P are consequently defined in an obvious manner in terms of F. The four axioms of the original formulation may now be replaced by the single axiom MNS (roughly, ' the sanction is escapable '). We shall refer to this device, following Prior, as ' the Andersonian simplification '.[1]

I

The Paradox of the Good Samaritan

" From the modal law

$$CLCpqCLCqrLCpr \qquad (53)$$

(" What is necessitated by what is necessitated by p, is necessitated by p "), we have by substitution

$$CLCpqCLCqSLCpS \qquad (54)$$

" What necessarily implies what necessarily implies the sanction, itself necessarily implies the sanction " ; or more briefly, what necessarily implies what is forbidden is itself forbidden. For example, helping someone who has been robbed with violence is an act that can only occur if the person has been so robbed (" X helps Y who has been robbed " necessarily implies, " Y has been robbed ") ; but the robbery (being wrong) necessarily implies the sanction ; therefore the succor (since it implies the robbery) implies the sanction too, and is also wrong." [2]

Theorem 54 thus gives the paradoxical result that, by helping the victims of a robbery, the Good Samaritan lays himself open to a ' sanction ', and, if we use the Andersonian simplification, that what he does is ' forbidden ', i.e. wrong. This is not a logician's paradox, like Russell's class paradox ; it reveals no logical antinomy or contradiction within the calculus. It is simply that theorem 54, which is obtained by substitution from a truth of logic, gives, when interpreted, a result which is not only surprising, but unpalatable. We must, therefore, either accept this result as something strange but true or modify the calculus or deny that the symbols S and F can be interpreted to mean ' sanction ' and ' forbidden '. We shall offer a solution to the paradox designed to show that, for any interesting moral interpretation of the system to be possible, some modification of the system is required.

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[1] Alan Ross Anderson, *The Formal Analysis of Normative Concepts* (Technical reports No. 2, U.S. office of Naval Research, 1956).

[2] Prior, *op. cit.* p. 144.

On page 138 of Prior's paper, we are told that the symbol S is to be interpreted as standing for an unspecified sanction, and that ' p is forbidden ' may be defined as ' p necessitates the sanction '. Since ' necessitates ' is here being used as a short-hand for ' necessarily (strictly) implies ' (LC), we are already in difficulties over logical grammar. For presumably it is *statements* which imply or are implied. We are to take the propositional variables of the system as having for their values statements to the effect that certain actions are performed by certain agents. Now in fact we find, not only in the passage quoted but throughout the article, entities such as robbery and escaping implying and being implied. This is probably a harmless enough abbreviation : we may allow an expression such as ' helping the victim of a robbery implies a robbery ' on the grounds that it can be easily expanded into the formally correct (and true) statement " ' X helps Y and Y has been robbed ' necessarily implies ' Y has been robbed ' ". And this licence can readily be extended to any case where a noun or noun-phrase can be expanded into an indicative non-deontic action-statement. But in such cases as ' robbery implies the sanction ', it is far from clear how ' the sanction ' is to be expanded into a statement. We might try ' someone suffers the sanction '; but this will not do since, in this wicked world, it is not always true that when (say) a robbery is committed someone suffers a sanction. Moreover, on this interpretation it is clear that none of the deontic concepts (F, P, and O) can adequately be defined in terms of S, since S itself is not deontic.

So, remembering that S was said to be a deontic concept, let us try to read it as ' someone *ought* to suffer the sanction '. But now the first interpretation of theorem 54 is no longer paradoxical. For we have ' what necessarily implies what necessarily implies that someone ought to suffer the sanction, itself necessarily implies that someone ought to suffer the sanction ', and this on reflection is innocuous. All it means is that the Samaritan (logically) cannot act unless *someone* has laid himself open to the sanction.

It is worthwhile pausing at this point to see why Prior's first interpretation of the theorem even looked paradoxical in the first place. It is because the sanction seemed to be transferred back from hanging over the robbers' act to hanging over the Samaritan's act as well. But the only transference that actually takes place here is the purely logical transference of a consequence of a consequence of a statement into a consequence of that state-ment. It is not the *predicate* ' deserving a sanction ' that is

transferred from one act or agent to another, as the statement
of the paradox suggests ; and as soon as we recognise that S is
required by logical grammar to be interpreted as a statement,
and interpret it this way, the air of paradox surrounding the
first interpretation is dissolved.

Let us now turn to the second interpretation of theorem 54, the
one that makes use of the Andersonian simplification whereby
we may read ' p is forbidden ' for ' p necessitates the sanction '.
If we adopt this simplification, there can be no doubt that the
Samaritan's action is forbidden, for there is no doubt that the
action he performs necessarily implies the sanction.   Indeed,
any action which he or anyone else performs which implies that a
robbery has been committed is forbidden.   Again, we need to
decide, in order to clarify the situation, just what *statement* S
is supposed to be.   And again it will not do to render S by ' some-
one suffers the sanction '; for we know that many forbidden
acts are done without anyone suffering any sanctions.   So let us
once more read ' someone ought to suffer the sanction ' for S ;
then the Andersonian simplification consists in reading ' p is
forbidden ' for ' p necessarily implies that someone ought to
suffer the sanction ', and the question is whether to accept this
reading or not.   If we do accept it, then the second interpre-
tation of the theorem is no more paradoxical than the first :
all we have to do is to bear in mind that when we call the
Samaritan's act forbidden we are to understand ' forbidden '
in this special and peculiar sense.   But if we do not accept this
reading, then the second interpretation of theorem 54 is not a
possible interpretation, and hence not a paradoxical one ; it is
simply an error.

In order to introduce Fp as the defined equivalent of LCpS and
to retain anything like the concepts of ' forbidden ' and ' sanction '
as we have them (and if we cannot do this, we had better drop
the simplification altogether), it is necessary that it should be
introduced in such a way that the sanction can only hang over
the person who does the forbidden act ; this, we suggest, might be
attempted in one of two ways.   (i) We may invoke certain
extra-systematic rubrics imposing restrictions on the ways in
which the calculus is to be interpreted, for example a rubric
restricting the range of our propositional variables to statements
concerning the actions of some one determinate individual.
(ii) We may extend the calculus in some way by allowing for the
introduction of term-variables whose range is individuals, and
predicate letters denoting actions which these individuals perform.
Our contention will be that, if precisely formulated, the

extra-systematic rubrics will be so many and so complicated that
the restrictions they impose would be more naturally incorpor-
ated in the calculus.

II

A solution on the lines of our first suggestion has been proposed
by Dr. H. P. Rickman.[1] " Each person should regard deontic
logic as applying to those measures he must take to avoid the
sanction that threatens *him*. From this point of view a wrong
done by someone else simply does not concern ' the person whose
deontic logic this is ' *as* a wrong, *i.e.* as a thing on account of which
the sanction hangs over *him*, but merely, as it were, helps to set
the stage on which the acts for which he really is responsible
take place. So here we have no LCqS—the robbers' robbery, q,
just does not necessitate the Samaritan's sanction S, though it no
doubt necessitates another sanction S_1 on which *their* (*i.e.* the
robbers') deontic logic is founded."

This solution is on the lines of our first suggestion since it
involves an extra-systematic rubric according 'to which the
values that may be given to the propositional variables are
restricted to actions of the person " whose deontic logic it is ".
But it is, as it stands, too vague. In what sense does each person
have " his own " deontic logic? What is meant by saying
that a wrong done by someone else does not " concern the person
whose deontic logic it is "? How exactly do we come to " have
no LCqS "? Prior seems to mean that, for each individual X
who uses the calculus, the propositional variables may only take
as values statements that " concern " X. In this way we " have
no LCqS " in the Samaritan's calculus since, in his calculus,
' X robbed Y ' cannot be a value for q. In the same way LCpq
disappears from the robbers' calculus since p concerns only the
Samaritan and the victim.

This restriction is not, however, enough to remove the paradox :
for in the *victim's* calculus his being robbed and his being helped
both concern him and are possible values for p and q, so that the
conclusion LCpS can be drawn by him. Indeed, the victim
will be forbidden to help himself or even to bemoan his fate.
In general, we shall find that anyone who is in any way concerned
with a wrong act is forbidden to do anything about it, since
' doing something about ' the wrong act implies the wrong act
which in turn implies the sanction. To avoid these paradoxes,

[1] Prior, *op. cit.* p. 144. We have not seen Dr. Rickman's solution and
rely solely on Prior's summary of it.

we require a further restriction, which is suggested by Rickman, namely that S must be interpreted as the sanction of *the person who is using the calculus*. Then, if the victim is using the calculus, LCqS is *false*, since the robbery implies not his sanction but that of the robbers.

It has been pointed out to us by Prior that, even with these restrictions, a new paradox, which we may call the Robbers' Paradox, will arise. The robbers will be forbidden to do anything about their robbery, for example helping the victim or repenting of the robbery. For, in their calculus, they figure as subject in both p and q—they both repent and rob—and so LCpS can still be proved, where S is *their own* sanction. Without the Andersonian simplification there is no paradox here, since LCpS merely means that he who repents of a robbery is liable to a sanction, which indeed he is, though it is for the robbery, not the penitence. But the substitution of Fp for LCpS does give the paradoxical result that the robbers are forbidden to repent. We shall discuss and evade this paradox in the next section.

When stated in a form sufficiently precise to avoid all paradoxes (except perhaps the Robbers') the restrictions imposed by the Rickman solution seem hopelessly repressive. A man applying the calculus to establish what he should or should not do can only reckon with those acts that he himself is concerned in. He can take no account of the independent acts of others. It is not just, as Prior says, that another's act " does not concern him *as a wrong* . . . but merely helps to set the stage on which acts for which he really is responsible take place ". Since he must be " concerned " in all the statements in the calculus, and since the sanction involved must be his, the acts of others and the sanctions imposable on them cannot be mentioned at all. The Samaritan cannot use the calculus to make up his mind what to do about the robbery, since the robbery cannot figure at all in ' his ' calculus.

Moreover, when brought out into the open, the type of restrictions which these extra-systematic rubrics impose is seen to be one that tacitly employs the use of term-variables enabling us to sort out the people concerned in the case. For this purpose a quantified calculus is essential and we may hope that such a calculus will allow us to ensure that a man is only threatened with sanctions for his own acts without having to exclude all mention of the acts of others. We put forward in the next section some proposals as to how such a quantified deontic logic might go.

III

Let us select for our starting point a quantified modal logic such as quantified S5.[1] We add to this base a particular constant predicate Sx, which is to be interpreted ' x is sanctionable ' or ' x ought to suffer the sanction '. Now suppose that ϕ is a predicate *in which x occurs free*; then we may define Fxϕ as LCϕSx—' x is forbidden to ϕ ' means ' ϕ strictly implies that x is sanctionable ' where x occurs free in ϕ. Thus suppose Rxy means ' x robs y '; then we have LCRxySx, ' if x robs y then x is sanctionable '. Since x occurs free in Rxy, we may abbreviate to FxRxy—' it is forbidden for x to rob y '. The general ethical ruling that robbery is always forbidden may be expressed by Πx Πy FxRxy. Turning to the paradox, we may write Hxy for ' x helps y '; then in place of theorem 54 we have :

C LCKHxyRzyRzy C LCRzySz LCKHxyRzySz,   (54')

' if x's helping y whom z robs necessarily implies that z robs y, then if z's robbing y necessarily implies that z is sanctionable, then x's helping y whom z robs necessarily implies that z is sanctionable '. The first antecedent of the conditional is a truth of logic, and the second antecedent an ethical law, hence we obtain LCKHxyRzySz. But this cannot now be abbreviated to anything of the form Fxϕ, since x is not the subject of Sz. We *can* abbreviate to FzKHxyRzy, but this means nothing more harmless than that z is forbidden to rob y whom x helps. We have the people straightened out, and no paradox arises.

The resultant system embodies the cardinal features of the Andersonian deontic logic in a slightly different form. For example, we may define Oxϕ (' it is obligatory for x to ϕ ') as LCNϕSx (' x's not ϕ-ing necessarily implies that x is sanctionable ') provided that x is free in ϕ. Then we may readily prove such elementary laws as :

E OxK$\phi\psi$ KOxϕOxψ, provided that x is free in ϕ and ψ,

' it is obligatory for x to ϕ and to ψ if and only if it is both obligatory for x to ϕ and obligatory for x to ψ '. And quite apart from elementary theorems, the system is capable of expressing complex ethical propositions, through the presence of differentiating variables for distinct people.

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[1] *I.e.* the ordinary system S5, extended to allow predicate-letters and term-variables and enriched by the usual quantifier-rules. Some details about resulting theorems are given in Carnap, *Meaning and Necessity*, pp. 173-186. In fact, in what follows it makes no difference if a far weaker modal system, such as T, is selected as starting-point.

This new system enables us to see clearly the confusion on which the Robbers' Paradox, mentioned earlier, rests. If it is the robbers who return and help the victim, we have LCKHxyRxySx (' If x helps y whom x has robbed then necessarily x is sanctionable '), and this can indeed be abbreviated to FxKHxyRxy by the Andersonian simplification in its new form. But what this forbids is not the helping alone but the *conjunctive* act of robbing and helping. And of course it does *not* follow in the system, given that the conjunctive act of robbing and helping is forbidden and that robbing by itself is also forbidden, that helping by itself is forbidden.

IV

The Naturalistic Fallacy

We turn now to the question whether or not the interpreted calculus is ' naturalistic ', and we shall take this to mean that its interpretation allows deontic statements to be deduced from non-deontic statements. Prior himself raises this objection in the form that, if we read E (escaping) for NS, it would seem that the deontic concept Op, defined as LCEp, is defined in terms of the ' natural ' (non-deontic) concept of escaping what we fear. He rebuts this charge satisfactorily by pointing out that the concept E can be taken in a deontic sense. " Escaping is what occurs if and only if we meet all our obligations." This indeed is how it must be taken when we remember that E is equivalent to NS and that S itself is a deontic concept. To escape is to *deserve* no sanction. But this is not the only charge that can be brought on the score of naturalism. We shall try to show that any system of the Andersonian type is open to the objection that, unless great care is taken in assigning values to the propositional variables or predicate letters, naturalistic results will occur, and that, if this great care is taken, the systems lose most of their interest as deontic logics. In particular, the Andersonian simplification is a standing temptation to fall into a classic rationalistic error.

Prior suggests no restriction on the range of values of the propositional variables in his calculus but leaves us to assume that they are statements to the effect that some one does a certain act, such as helping or robbing. But if this is so, what are we to say of an expression of the form LCqS or LCφSx? They appear to state that the act mentioned in q or φ necessarily implies the sanction or, when expanded, that someone who does

that act is necessarily liable to the sanction. But what *kind*
of necessity is this? Since the main operator is L it must be
logical necessity. But in that case, where q or ϕ is descriptive
(non-deontic), it will be to commit the naturalistic fallacy to
suppose that LCqS or LCϕSx is true ; the latter, for example,
will mean that if x ϕ's then he is necessarily sanctionable, and
the necessity involved is not ' moral necessity ', if there is such a
thing, but logical necessity ; and this is just not true if ϕ is some
non-deontic pred cate.

To see the danger here, let us return to Prior's formulation of
the paradox cited at the beginning of section I. (We are now
concerned, not with the paradox itself, but with a general feature
of the interpretation of Andersonian systems.) The interpre-
tation which Prior gives to the clause LCqS runs as follows :
" but the robbery, being wrong, necessarily implies the sanction."
There is, however, nothing in the symbolic expression corres-
ponding to the words ' being wrong '. Prior, as moralist,
naturally expects us to take the view that ' robbery is wrong '
is a true deontic statement (moral law). But, as logician, he is
not entitled to introduce such a statement into the interpretation
of a symbolic expression, if nothing in the symbolism corresponds
to it. The dilemma is plain. To make use of the calculus in
a moral situation we want the true values of Fp and Op to be
moral laws ; but if non-deontic values are permitted for p,
all statements in these forms will be simply false (since they all
assert that strict implication holds between a non-deontic and a
deontic statement), and if deontic values alone are permitted for
p, they will all be, when true, not moral laws, but assertions of
logical necessity. In neither case will a true deontic statement
(moral law) be able to figure in a serious application of the calculus
at all. This is not to say that a satisfactory system could not be
constructed with S, interpreted as ' X deserves the sanction '
as sole deontic primitive ; the trouble lies in the definition of a
deontic operator in terms of LCpS. We may agree that robbery
is always wrong and may add, if we like, that this statement is
' morally necessary '; but when we assent to this it is to a moral,
not a logical law that we assent.

There seem to be two ways in which Andersonian systems
might hope to escape these naturalistic results. (i) We may just
recognize that LCpS or LCϕSx is plain false when p or ϕ is non-
deontic and proceed as before. But this is to rob the calculus
of its utility ; only acts deontically defined will strictly imply
the sanction, and only such acts will be forbidden. It will,
for example, be forbidden to do a sanctionable act (for what the

information is worth), since LCKpSS *is* a logical truth which we
can abbreviate to FKpS (' p, being sanctionable, is forbidden ').
But ordinary moral rulings, such as those forbidding murder,
robbery or adultery, cannot be used as true premises in a piece
of moral reasoning, since they are all false.

(ii) A more hopeful line would be to interpret L throughout as
' it is morally necessary that . . . '. But there are several
objections to this procedure. It is quite unclear what moral
necessity is, in the first place, and so long as this remains unclear,
it is uncertain whether the axioms and rules of an ordinary modal
logic such as T remain valid when reinterpreted in this way.
For example, the basic axiom CLpp becomes ' if p is morally
necessary, then p is the case ', and this, to say the least, might
well be doubted.   In any case, one of the main motives behind
the construction of Andersonian systems is to perform a *reduction*
of deontic logic to *ordinary* modal logic, by confining the deontic
element to a sole constant S or E.   But under the proposed
reinterpretation we have both the deontic constant and a deontic
operator L, and no reduction at all has been achieved.   Indeed,
it would clearly be far simpler now to develop deontic logic in
the pre-Andersonian way by taking some operator such as O as
sole primitive and to examine its logical properties in a separate
calculus.

V

The argument in the last section is, we believe, of major
importance for deontic logic.   Moral philosophers have often
claimed the status of necessary truths for moral laws ; but they
have not always made it clear just what kind of necessity is being
claimed.   Is it logical necessity or a special ' moral necessity '?
That there is such a thing as moral necessity is a view which
gets some support from the fact we use such words as ' must '
and ' law ' in at least three different contexts, logic, science and
morality ;   and this seems to show that we recognise at least
three kinds of necessity, logical, causal and moral.   With the
philosophical arguments for and against a special moral necessity
we are not here concerned ;   but we are concerned to avoid any
confusion, or even the appearance of confusion, between moral
necessity, if such there be, and strict implication.   For it is this
confusion that enables rationalist philosophers to trade illegiti-
mately on the logical associations of the word ' necessary '.

The confusion is an old one.   " There has been an opinion very
industriously propagated by certain philosophers, that morality

is susceptible of demonstration ; and though no one has ever been able to advance a single step in those demonstrations, yet it is taken for granted that this science may be brought to an equal certainty with geometry or algebra. Upon this supposition, virtue and vice must consist in some relations ; since it is allowed on all hands that no matter of fact is capable of being demonstrated."[1] Hume goes on to assert that there are only four relations " which admit this degree of evidence " and challenges the rationalists to produce a fifth. This, as it stands, is a weak argument ; for we may well ask why the four relations named by Hume should alone permit demonstrative proof. We are now, however, in a position to put Hume's argument in a form that is both stronger and more perspicuous. For a statement about a relation to be demonstrable it is necessary that the relation should be what the rationalists and Hume both called ' necessary connexion ', corresponding to LC. But consider a typical example of the kind of deontic statement that the rationalists claimed to demonstrate : beneficiaries ought to be grateful to their benefactors. What, we must ask, is necessarily connected with what in this statement? Since men are in fact often not grateful, it is clear that ' A did a service to B ' neither strictly nor materially implies ' B *is* grateful to A '. The statement to be demonstrated must be " ' A did a service to B ' strictly implies ' B *ought* to be grateful to A ' ". But this cannot be true, if the antecedent is non-deontic and the consequent is (as it is) deontic.

The illusion of demonstrability is produced by expressing the statement to be proved in the form ' Beneficiaries are obliged to be grateful to their benefactors '. Here the expression ' are obliged to ' does double duty. It represents the deontic ' ought ' which appears in the consequent of the expanded version, and also represents the strict implication which figures as main operator in that version. If the necessity connoted by the word ' obliged ' is moral necessity, the logical necessity which is required for demonstrability is absent ; and if it is logical necessity, the statement must be false, on the assumption that ' doing a service ' is non-deontic and ' ought to be grateful ' deontic.

Use of the Andersonian simplification is liable to lead to the same mistake. For, if we read Fp as ' p is forbidden ', the true values that we want for Fp will be moral laws stating truly that the act named in p (murder, robbery, and the like) is forbidden ; and we may add, if we like, that these laws are true statements of moral necessity. By equating Fp with LCpS we seem to make explicit the element of necessity ; but it is now logical

[1] Hume, Treatise, III, i. 1.

necessity, the moral element being hidden in S. In this way a statement of moral law can be made to look like a statement of strict implication, a logically necessary truth. The simplification does not, indeed, compel us to make this mistake. We can, as we have seen, treat as false all statements of the form Fp, when p is non-deontic. But to do this is to rob the system of its utility, and it is also dangerously easy to overlook the point. Yet to overlook this point is to fall into the classical rationalist error, and it is not the least of the advantages of formalisation that it enables us to bring out more perspicuously the nature of the issue between Hume and the rationalists.

II.—A TECHNICAL OUGHT

By B. J. Diggs

In the recent literature of ethics Hume's observation that it is impossible to deduce propositions containing *ought* and *ought not* from premises containing *is* and *is not* has received great attention. In this paper I want to re-examine this question for a limited class of instances—those instances in which the *ought* proposition gives advice in particular circumstances on how to attain a determinate end, one which can be identified in non-value terms. This relatively simple case should not be passed by, even if one has larger aspirations.

Consider the following example : A traveller stops his car at a store and says to a person A, " I want to go to X. Which road should I take ? "

Let us suppose that A did not know the road to X. He turns to the store's proprietor P and says, " The man in the car wants to go to X. Which road should he take ? " P with the information (1) " The man in the car wants to go to X ", and knowing (2) " Route 30 is the road to X ", says without the slightest hesitation, " He ought to take Route 30 ".

This kind of advising is often called " technical ", usually in order to dispose of it. The advice conveyed by the " ought " is thought to be so completely justified by factual statements, so much an empirical matter, that one is not concerned to analyse it. He may suspect that this kind of an " ought " is really an " is ". Or if this suspicion is too bold, he may think that the reasons or premises entail the " ought " sentence on condition that we widen the normal sense of " entailment ", perhaps in something of the way that Hare did to cover arguments containing imperatives (" A sentence P entails a sentence Q if and only if the fact that a person assents to P but dissents from Q is a sufficient criterion for saying that he has misunderstood one or other of the sentences "[1]).

However, entailment relations in this example, if there are any at all, depend on more than the premises I enumerated. I want to show that this is so.

First, let us note that P could have used any of a number of expressions to give the advice which he gave in the form " He ought to take Route 30 ". For example, he could have said just as effectively " Route 30 is the road to X ", or " Route 30 is the road he wants ". And if he spoke to the advisee directly, he

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[1] R. M. Hare, *The Language of Morals* (Oxford, 1952), p. 25.

could have said " Take Route 30 ".   In whichever of these forms
the advice was offered, if the circumstances outlined above were
the only ones relevant, A would have no ground for asking
further questions or disputing P's advice.   On the other hand, if
A knew of additional relevant circumstances, he should certainly
question the advice.   Suppose A knew that Route 30 was under
extensive repair and he informed P of this.   P, or A, would be a
poor advisor if he said simply, " You ought to take Route 30 ",
or " Route 30 is the road to X ", or if he used any equivalent
expression.   The original advice was justified only because P and
A had no reason to assume that the man's taking Route 30 would
have important undesirable consequences.

In other words, an ought sentence of this type (or its equivalent)
is properly questioned if additional purposes and rules, which the
prescribed means can be reasonably expected to affect, enter the
picture.   " Ought " in this use is a prescriptive term and it
prescribes a course of action on the assumption that all relevant
factors have been considered.   We can make the same point by
saying that this " ought " proposes a final or ruling decision :
it represents a course of action as *best*, the *one* to be taken—at
least in given circumstances.   It is misused if known factors
which are presumably pertinent to the decision are not taken
into account.   For example, if P knew of two roads to X, both
about the same, P would not be justified in saying simply " He
ought to take Route 30 ".

At the same time, in the example as originally given P would
have been quite justified in saying this.   An advisor advises
relative to information offered.   Advice-getting would be hope-
lessly laborious, as it sometimes is, if the advisor takes it upon
himself to cross-question the person requesting advice on his
purposes—or if he goes on to enumerate all sorts of information
about Route 30 which may have some possible effect on the
advisee's purposes.   If a person wants advice it is his responsi-
bility to give the information that is pertinent.   If he asks which
road he should take to X, and gives no information directly, or
indirectly, by his appearance, etc., he cannot reasonably object
to the reply " You ought to take Route 30 "—even though he
discovers later that by taking a detour he could have visited the
birthplace of Buffalo Bill.

Actually situations in which advice is requested relative to
purposes vary considerably.   Some are quite circumscribed, as
for example when one says " I want the drier of the two wines ".
Others are very open, as when one says " I want to take the most
interesting route ".   But even in the circumscribed case, before

an " ought " proposition is justified one must judge that no other
factors are relevant. Suppose in the first example that the drier
of the wines had a peculiar flavour : if we say " you ought to
take this one ", we are judging that there are no factors other
than " dryness " which *are* relevant.

All of which means that if we try to represent the original
argument as an entailment, we must do so in some such way as
the following :

> He wants to take a road to X, and a road which has character-
> istics a, b, c . . ., and these are the only characteristics, significant
> for his present decision, that he wants in a road to X
>
> Route 30 has characteristics a, b, c,
> and is the only such road to X
> He ought to take Route 30.

This indicates that if the relationship between premises and
conclusion is an entailment, it is extremely complex—even for so
simple an example. But is this an entailment ? If it is, how
are we to account for the " ought " conclusion following from
premises which (at least apparently) include no " ought ".

Let us be quite clear why " ought " is used by P in the above
example. The popular thing to say is that it is used to advise, or
commend, or prescribe, or propose a course of action, and this is
accurate so far as it goes. But what is the occasion for the
advice ? What does this use of language consist in ?

The occasion for the advice, in the contexts I am considering,
is that a person has a problem of choice, and this problem derives
from the fact that he wants something but does not know how to
get it. We are all acquainted with the fact that knowing *a is b*
does not imply knowing *a is c*, even though *b is c*. Thus, knowing
that my aim is to take the road to X does not imply knowing that
my aim is to take Route 30, even though Route 30 is the road to
X. But conscious wanting follows knowing, and thus wanting
to take the road to X does not always lead to wanting to take
Route 30. Kant has misled many of us. In a case of this kind,
it is just because wanting the end does not analytically imply
wanting the means that advice is called for and an ought proposi-
tion is appropriate. Wanting the end does not imply wanting
the means, and wanting the means (the road to X) does not imply
wanting that which, as a matter of fact, *is* the means (Route 30).
What is the advisor to say when he offers advice ? He cannot
use the indicative and say, accurately and literally, that the
advisee *wants* to take Route 30. He may possibly say, as he
sometimes does, " He will want to take Route 30 ". And he may
say " Route 30 is (as a matter of fact) the road he wants to take ".

But the last expression is ambiguous, and advice-giving occurs so often that a simple expression is needed. ' Ought ' is just such an expression. The advisor in giving advice may simply state factually what means leads to the desired end, or he may use the word ' ought '. In either case, if he offers advice—of the kind we are considering—and does so justifiably, that is, if he gives what we would call " good advice ", he judges that there is no reason for his not giving advice, and he gives information about a means, and he judges that the advisee's taking this means has no important consequences that might conflict with his other purposes. If the advisor is unsure on this last point, we should expect him not to use the word ' ought ', not to say what " ought to be done ", but to give information on the means and reasons for not taking it, and leave the decision on what ought to be done up to the advisee. In the original example, P might have said " Route 30 is the road to X, but it is under repair ". However, if the advisor uses the word ' ought ', and uses it properly, he expresses a decision which *he* has reached, but one relevant to the purposes of the *advisee*. He *proposes* this decision to the advisee, because he cannot make the advisee's decision for him, and yet it is relevant to the advisee's purpose. The advisee himself in stating his purpose and requesting advice asks another *to think for him*—he lacks pertinent information and requests the advisor to deliberate in the light of purpose and information and reach a *decision*. ' Ought ' as used in this kind of advising is the instrument which the advisor uses to propose the decision and respond to the request. (How much we depend on and ask of each other, and how often is the mutual trust discharged !) ' Ought ' is the word designed to do this job.

The same job can be accomplished, just as well, with factual statements. If P had said directly to the man in the car " Route 30 is (as a matter of fact the same as) the road you want ",[1] or more simply, " Route 30 is the road to X ", and this were justifiable advice, then, too, he has judged that advice is to be given, and he has given information on a means, and proposed a decision. These expressions, too, cannot be justified *as advice* unless one judges that the consequences of taking Route 30 relevant to the advisee's present purposes have been considered. They, too, are

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[1] A hortatory element is prominent in some sentences of this grammatical form, especially when the advisor wants the advisee to pursue the purpose and expects his advice to meet resistance. It is not prominent in the case being considered. In this kind of case even when an imperative is used, *e.g.* " Take Route 30 ", the imperative does not normally *urge* the advisee to take the advice, but simply *offers* it.

used in the context of present purposes and wants, with the limits of this context left vague. "You ought to take Route 30" as used by P does not imply that this is the thing to do to serve one's long-term goals best ; it is used in the context of the present. So it is with "Route 30 is the road you want", or "Route 30 is the road to X".

This should make it clear that advising in this sense is not opposed to "fact-stating". It is certainly the case that if an advisor states facts, his purpose is neither "simply to state facts", nor to describe the universe or the works of man. His purpose is to advise. But advising, although it is different from stating in order to describe, is not opposed to stating as such. Surely the person who advises by saying, "Route 30 is the road to X", is *also* stating ; otherwise this sentence would not give an answer to a bystander who is simply curious to know the road to X. If one states facts, this does not mean that he cannot advise and commend at the same time—he may commend and advise by stating those facts which are relevant to the given context. If one undertook to classify the purposes of language, there is considerable question whether or not it would be found profitable to include stating, or statement-making, as one of them. It may be more profitable to regard a statement or proposition, true or false, as a logical abstraction out of the so-called "living context of language", that is, as an abstraction from the purposes for which statements are made. But if, as is customary, we do include statement-making as a use or function of language, let us acknowledge that it is a use which serves other uses, a function which is instrumental to the accomplishment of other functions. Stating is opposed neither to describing nor to advising.

If advising is not opposed to stating, what is it that makes it advice rather than "simple fact-stating" and description ? Suppose the man in the car overheard a bystander say of him to another bystander, "Route 30 is the road he wants". If P had said this, he would be advising. But the bystander is simply making a remark. The purposes of the two men are different. Perhaps we should not say that the man received advice when he overheard the bystander. But it does not matter much whether we do or not.

Moreover, it seems to follow from these considerations that advice-giving sentences, of the present kind, are "justified" by the same facts which establish the truth of descriptive statements. Recall those premises which were P's reasons for saying "He ought to take Route 30", as we outlined them above. They are

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He wants to take a road to X, and a road which has character-
istics a, b, c . . ., and these are the only characteristics, significant
to his present decision, that he wants in a road to X.

Route 30 has characteristics a, b, c,
and is the only such road to X.

These premises do entail :[1]

Route 30 is the road he wants to take.

—not of course in the sense that he consciously wants to take
Route 30, but in the sense that Route 30 is in fact the same as the
road he wants. As we have seen, this conclusion may be used
either simply to state a fact or to advise. Exactly the same
premises, however, appear to *justify* the statement, whether it is
simply a statement of fact or a piece of advice. In other words
the advice appears to be sound if and only if the premises are true.
Moreover, as we have seen, the conclusion " Route 30 is the road
he wants to take ", offered as advice, does the same job as " He
ought to take Route 30 ". From this it seems to follow that both
the ' ought ' sentence and the factual conclusion are justified by
the same reasons. *If* this is the case, the ' ought ' conclusion of
our original " argument " is fully justified by purely factual
premises, and it is a fundamental mistake to think that *advice*
does not justifiably follow, at least in some sense, from facts or
statements.[2]

This is an important conclusion, and it would be correct if the
only things pertinent to the justification of an ought sentence,
or advice-giving—of the kind we are considering—were (1) the
present wants of the advisee, and (2) the means necessary to the
satisfaction of those wants. However these are not the only
things pertinent to such justification, and to the soundness of
such advice.

Suppose, for example, that the man in the car had said " I
want to go to X to kill the mayor. Which road should I take ? "
Or suppose it were known to us that the man who said " I want
the drier of the two wines " had been told by his physician not to
drink any wine. Should we say to these two respectively " You
ought to take Route 30 " and " You ought to take this wine " ?

[1] With the qualification mentioned in note 2.
[2] Of course the proposition expressed by " Route 30 is the road he wants
to take " may be rightly believed to be true without one being able to
accomplish the purpose of advising. The advisor may be able to express
himself clearly only in French, which the advisee does not know. But this
only indicates that some people who have sound advice to offer never
succeed in advising. The soundness of the advice does not depend on the
success of the advising.

Are these 'ought' sentences justified by the factual premises ? The purely factual conclusions " Route 30 is the road you want " and " This is the wine you want " are entailed provided the restrictions referred to above are met. But are the 'ought' sentences justified ?

I think we are forced to say " No " or at least " Not completely justified ". We might say that the 'ought' sentences *would be* justified if the advisee's present wants were the only things that need be considered, or the only things in question. But this statement is contrary-to-fact.

It has been customary to speak of this kind of 'ought' as hypothetical on its purpose, and as justified relative to its purpose. This way of speaking, however, is incomplete and unsatisfactory. For in its primary advising use ' ought ' is not a *hypothetical* but a *categorical* term—as we have seen, it expresses a decision reached, *all* relevant factors presumably having been considered. It thus proposes a course of action as *the one* to be taken in the circumstances. To be sure, sometimes we represent the decision and course of action as conditioned on a purpose, in a hypothetical imperative. But even in such a case, it is said that *given* the purpose, then *this* is the decision and course of action to be followed. Every ' ought ' sentence of this kind, even that which explicitly is conditioned on a purpose, must be able to be stated categorically —when the advisee has the purpose. Such an imperative does not simply state a means-end relation.

As a consequence of this categorical or " decision-proposing " quality of ' ought ', if there is reason for objecting to the purpose (if we should say " He ought not to want what he wants "), then there is reason against saying that a course of action which will accomplish that purpose " ought to be taken ", given that purpose. If the purpose is generally or universally condemned, we cannot *justifiably* advise even with a hypothetical imperative : for example, " If you want to rob the Bank you ought to . . . " is dubious advice no matter what course of action is prescribed. The same thing can be said if what is prescribed relative to a purpose is itself something condemned, as in the example " If you want to get a million quick, you had better learn to lie ". And if a purpose is not generally condemned, as in the example " He wants the drier of the two wines ", still in the special circumstances in which objection is made to the purpose, the ' ought ' sentence conditioned on it is not, or is not fully, justified.

This, I say, is a feature of ' ought ' sentences of the present kind which derives from the fact that they are decision-making or ruling. Such ' oughts ' are hypothetical only in the sense that

they apply and are appropriate in special sets of circumstances and to special purposes. They are quite categorical when these circumstances and purposes occur. This reveals why moral philosophers who based ethical distinctions on assumed universal wants never felt the need of any *more categorical* obligations than these universal wants demanded. An obligation conditioned on a universal want, one that is always with us and always pre-potent—if indeed there is any—is quite categorical. The only question here is whether, contrary to appearances, there are such purposes.

For the reasons given, then, we must say that an ' ought ' sentence which offers advice in particular circumstances on means to an end is neither entailed nor fully justified by a set of factual premises stating relevant purposes and the means of achieving these purposes. An ' ought ' sentence of this type proposes a decision on a course of action, on the assumption that all relevant factors have been considered. As we have seen before, if there are purposes other than those explicitly mentioned, and which the advisor may reasonably be expected to infer, they must be taken into account. Now we say that if other ' oughts ' are relevant, they also must be taken into account. Thus when advice is offered, as in our original example, there is an implied premise that nothing in the purpose, or in the choice of means, violates a " superior obligation ". This shows that " oughts " are not individual things, independent of one another. Since each proposes a decision on action to be taken, each is subject to the others. Each is a part of a system of obligations.[1]

I do not want to suggest, however, that all ' ought ' sentences which give information on how to gain an end (all technical ' ought ' sentences) fall into a single mould. In addition to that kind which proposes a decision in particular circumstances, which is the kind being considered, there are at least two others : (1) Some ' ought ' sentences are used in strictly circumscribed contexts to indicate the most efficient means to specific ends, without taking into account the broader purposes of an agent and without considering the morality of the ends or means. Such ' ought ' sentences are (almost?) purely descriptive. (2) Often ' ought ' is used in hypothetical imperatives in a way analogous to the grading use of ' good ' (*cf.* n.3 p. 314), in order to offer general advice rather than a particular decision. ' Ought ' sentences of this type say how one ought to act relative to a purpose generally

[1] As C. I. Lewis puts it, " But an act is wrong if it contravenes *any* rule of right doing. And it is right only if it contravenes *no* rule of right doing ". *The Ground and Nature of the Right* (Columbia, 1955), p. 94.

—other things being equal. But although particular circumstances cannot be considered in framing such imperatives, the purposes which normally accompany the pursuit of the purpose in question, and any moral rules which apply, are generally taken into account. The imperative does not simply state a means-ends relation, outside the context of other purposes and moral conditions. There is a gradual decrease in normative quality in these imperatives as one approaches the abstract conditions of (1).

Thus when one asserts an ' ought ' sentence of the kind being considered (and of some others as well), he does at least condone the purpose or wanting on which the ' ought ' sentence is conditioned. The ' ought ' sentence does not positively command (or commend) the purpose—it is not an imperative. But it implies negatively that the purpose is in a wide sense legitimate, not a violation of superior purposes and obligations. This is a part of what is implied in advice and the giving of advice.

The discussion of the last qualification reveals the fundamental difference between statements of fact, used to advise, and ' ought ' sentences. In the two examples above, in which the purposes expressed were respectively " I want to go to X to kill the mayor " and " I want the drier of the two wines ", the factual conclusions " Route 30 is the road he wants " and " This is the wine you want " were entailed by the premises. But since objection could be made to these purposes, the corresponding ' ought ' sentences " You ought to take Route 30 " and " You ought to take this wine " did not follow. This indicates that the factual conclusions differ in meaning from the ' ought ' sentences which correspond to them.

Notice, however, that one may object to and refrain from *using* the statements to advise, even though they are entailed by the premises, for the same reason that the ' ought ' sentences are not justified by the premises. That is, the advisor, although from the premises he knows what advice is wanted, may still refuse to give this advice—he may refuse to use these statements to advise—on grounds that he takes exception to the wants in question. (The case is similar to that of a valid but unsound argument, although in this case it is not the truth of the premises which is in question, but rather the moral or value quality of the purpose or means.) This implies that if the ' ought ' sentence cannot be justified, neither can the advisory *use* of the statement. And this suggests in turn that the ' ought ' sentence accomplishes by its primary meaning what statements of fact accomplish in their advising use.

Let us consider this further. Notice that a statement like " Route 30 is the road he wants " or " If he takes Route 30, he

will get what he wants " can be used to advise. But such a statement can also be used for other purposes. It is thus sensible and significant to ask whether or not it *is* as a matter of fact being used to advise : its being used to advise (or, in another case, to describe) is, so to speak, external to the statement itself, although it is not external to an advising context.

In the case of " He ought to take Route 30 ", however, we have a sentence that is used primarily to advise, or propose a decision made. On some occasions (particularly when used in the past tense) it may be the case that ' ought ' is used simply to state a fact. We might say, for example, " Napoleon ought not to have invaded Russia ", and only mean to say " Napoleon made a mistake—invading Russia was not to his purpose ". These " descriptive " uses of ' ought ', however, if in fact they are descriptive, seem to derive from the primary use, which is to advise. If we ask whether or not ' ought ' sentences of the kind we have considered—those which supply information relative to factually identifiable purposes—advise or not, we do not seem to be asking a question external to the ' ought ' sentences themselves and dependent on the context. That is, advising seems to be of their essence—a part at least of their meaning.

Should we say, then, that ' ought ' sentences of the kind considered are not *entailed* by factual premises ? The preceding discussion indicates three different reasons for saying that they are *not* entailed. First, before advice of this kind is justified, the advisor must judge from what he is told about the advisee's purposes, and from the characteristics of the advisee which he observes *in the context* in which advice is requested, just what purposes of the advisee are relevant to the advisee's decision, and just what means will accomplish those purposes. This judgment is an induction. We can consider this induction as having already been made, and represent the judgment of purposes and means as premises, as we did in the example above, and then ask whether the ' ought ' sentence is entailed by them ; or alternatively we can put as premises the factual statements which constitute evidence for the inductive judgment of purposes and means. The latter alternative reveals that in any case a complex induction is involved in the use of an ' ought ' sentence to advise. For this reason it is misleading to say simply that an ' ought ' sentence is entailed by the facts.

Secondly, before this kind of advice is justified, the advisor must judge correctly that there is nothing in the purposes of the advisee, or in the means, which is " so opposed " to " superior " purposes and obligations that the latter " should take precedence ".

This judgment, let us carefully note, is an essential element in the offering of sound advice. Whether this judgment itself can be justified by factual premises is a question beyond the range of this paper. In the usual case it is made implicitly or explicitly by reference to obligations which the advisor accepts, and thus by reference to rules, precedents, and the like which typify the advisor's society. Should we say that these rules and judgments are *entailed* by factual premises ? This seems inappropriate, to say the least. But even if we say they are, notice that the range of factual premises is very wide indeed : the premises in question are those which support the whole system of obligations. From this it is clear that no simple set of factual premises entails an ' ought ' sentence, even of the type herein considered. The factual premises enumerated in the original example above, complex as we are forced to make them, are a considerable over-simplification of what is required. We should have to add to the complex statement of inferred purposes, and the statement of means, the additional assertion that there is nothing in these purposes or means which is opposed in an important way to other purposes and obligations.

However, even if we add this sentence to the premises, there is a third reason why we should not represent the argument as an entailment. Entailment, strictly speaking, is a relation between statements ; and, strictly speaking, ' ought ' sentences are not statements. As we saw above, the advising use to which a factual statement is (or may be) put is outside the meaning of the statement, but is internal to the meaning of an ' ought ' sentence. And for this reason it can be said that ' ought ' sentences cannot be deduced from purely factual sentences.

This last reason is the reason most often given today, and is usually said to be *the* reason for saying that factual premises do not entail an ' ought ' sentence. But although the three reasons together constitute very good reason for saying this, it is questionable whether the third, if taken as not implying the other two, adds a substantial point. That is, advice-giving implies the kind of consideration mentioned in the first and second reason, and then one can with real point deny that ' ought ' sentences are entailed by statements. But if one says simply that an ' ought ' sentence gives advice and thus cannot be entailed by statements, so far he both fails to make articulate what advice consists in, what there is in advising sentences that makes entailment impossible, and he says something very misleading.

For in this matter of entailment it is what is implied in the giving of advice that is important, namely, the considerations

given as the first two reasons above. But if we speak strictly
and say that the ought sentence is not a statement and is thus
not entailed by factual premises, this is misleading in the follow-
ing respect : it suggests that the form of sentence signalizes some
mysterious element, an obligation, which is recalcitrant to justifi-
cation. It may lead one to reinterpret the premises as impera-
tives, in order to justify deductively the ' ought ' conclusion.
Or it may lead one to say that the ' ought ' conclusion is an ex-
pression of attitude and that reasons are " persuasive " with
respect thereto.

A different conclusion, however, is suggested, namely, that
entailment is not the paradigm or *sine qua non* of all justification
and proof. And it is this conclusion which is indicated by the
discussion of the kind of ' ought ' sentence we have considered.
For as we have seen, this kind of ' ought ' sentence is used in the
context of advising. The person who indicates his purpose is,
to be sure, not simply stating a fact or expressing himself. He is
requesting advice, and advice relative to his purposes. ' Ought '
rather than ' is ' is used by the advisor to propose a decision.
But the fact that it is used places no block in the way of justifica-
tion. The advisor could have given his advice just as easily and
effectively by using statements. ' Ought ' indicates neither a
non-natural entity nor a use of language which must go un-
supported. If it could not be supported its use would be un-
intelligible. Of course, P's reasons may not make A feel like
giving advice. It may be that no reasons will do this : reasons
are not the sorts of things which force people to state conclusions.
But this is not what is in question : the question is whether the
reasons are sufficient to warrant the advice, or make it sound
advice, not whether they constrain one to give advice. And
relative to the *soundness* of the advice, what is important in this
kind of ' ought ' is the purposes [1] of the advisee, the means
necessary to these purposes, and the general legitimacy of both
of these. If all of these factors are judged accurately, then one
has reasons which completely justify this kind of ' ought '
sentence. Why do these reasons justify the ought sentence ? The
final answer is : Because the job of the ' ought ' sentence is what
it is—it is used within a system of obligations to give informa-
tion and propose a decision on the means necessary to certain
ends. Naturally then, the judgments of means, ends, and the

[1] To the question of soundness it does not matter how the purposes are
indicated : the form of sentence, whether the purposes are expressed or
talked about, or even whether the purpose is indicated in words at all, does
not matter. But of course they must be indicated in some way.

legitimacy of these are pertinent reasons and the only pertinent reasons.

Thus in the example above, if A had told P that he agreed with P's judgment of the purposes of the man in the car, and he agreed that Route 30 is the only road which serves those purposes, and he saw no reason why advice should be withheld, and yet said that he did not agree that the man should take Route 30, P *should* be puzzled. The relation between reasons and conclusion, if not an entailment, is similar to an entailment. If a person accepted the (induction and thus the) premises and objected to the conclusion, he would indicate that he did not understand this use of ' ought ', and in this sense what ' ought ' means in this use. Thus if A said that although he agrees to the reasons, he simply does not *feel* that the man should take Route 30, then P might very well say to A that " his feeling " is not in point here, and that A shows by the reason he gives that he does not understand how ' ought ' is used or what it means in this context. And notice that A shows that he does not understand the meaning of *this kind* of ' ought ' because he does not understand the *kind* of reasons or criteria which are appropriate to this use of ' ought '. This is similar to the factual case in which a person misuses a term because he does not know the appropriate criteria : for example, the case in which one might say that there is a horse in the pasture, although he could not distinguish a horse from any other animal, and when ' horse ' means to him what ' animal ' means to men generally. In these respects exception should be taken to Hume's principle and to its implications, although it should be acknowledged at the same time that the way in which even this kind of ' ought ' sentence is justified depends in the end also on the way in which the whole system of obligations is justified.

In passing let us notice that the explanation of why certain *kinds* of reasons are appropriate to and justify an ' ought ' sentence lies in the statement of how the ' ought ' sentence is *used*—or in other words, lies in the *meaning* of the ' ought ' sentence. However, the statement of the *meaning* of the ' ought ' sentence is not used as a premise in any argument. It was used " metaethically " in talking about a case of ethical reasoning, to explain why the conclusion follows from the premises.

This permits us to see how this analysis corresponds to that of the so-called " naturalist ". For the naturalist would also insist that to explain why reasons justify an ' ought ' conclusion, one must give the meaning of the ' ought ', that is, he must define the ' ought '. And as P. B. Rice said so well, a maxim

(or a definition) makes explicit " what amounts to both a valuational habit and a semantical habit ".[1] The naturalist, however, puts the maxim or definition so to speak in the " object language"; he makes it the major premise of a formal argument, thereby making the argument deductive. Thus for our example the naturalist would add a premise which states the meaning of ' ought ' in this use : namely,

> One ought to do X (in this sense of ' ought ') if and only if doing X is a means necessary to getting what one wants, and this means and these wants violate no superior obligation.

As an account of the *justification* of the ' ought ' sentence this analysis does not differ significantly from the analysis above. It suffers (1) from needlessly pushing the reasoning into a formal and deductive pattern, and (2) by omitting from the meaning of ' ought ' its advisory use. (Naturalists must add to their definitions the assertion that they are used *practically*.) Moreover (3) the naturalistic analysis is committed to defining the phrase " violate no superior obligation " in the above definiens in factual terms, which admittedly is no easy task. This analysis, however, has the virtue of focusing attention on the " justifying reasons ". It is these reasons, of course, which naturalists have been most concerned to delineate.

If we grant the above, should we say that as far as we can judge from the kind of ' ought ' sentence considered, its *giving advice*, or *proposing a decision* on a problem of choice, or *commending*, or something of the sort, is, as many maintain, *the* meaning of the ' ought ' sentence ? Or should we say with others [2] that this " function " is *part* of the meaning ?

Surely we should not say that the individual reasons or criteria, peculiar to each instance of ' ought ', is its meaning in that instance.[3] But we have argued in the course of this discussion that if a person does not know the *kind* of reason appropriate to a general use of ' ought ', such as the technical use herein considered, then he does not know the meaning of ' ought ' in this use. However, the answer to the above question depends in the last analysis on how we should answer the larger question, namely, what had best be included in the " meaning " of an expression. What would it be most appropriate to include ? If we say that the *kind* of reason which justifies an ought sentence

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[1] *On the Knowledge of Good and Evil* (Random House), p. 141, *cf.* p. 143.
[2] *Cf.* Rice.
[3] *Cf.* Nowell-Smith on appraising, *Ethics*, Penguin, p. 165 ; Urmson " On Grading ", MIND, lix (1950), 145-169 ; and Hare, *op. cit.* chaps. 5-10.

of a given type is part of its meaning, then ' ought ' is an ambiguous term. For some ' oughts ' are not information-giving 'oughts' of the type considered : sometimes, even in non-moral cases, ' ought ' is used when the person has the information, but is uncertain what to decide. Consequently, if we say that the kind of reason in question is part of the meaning of this kind of ' ought ' sentence, we must say that simply by examining the expression itself we should not be able to determine its meaning. Its meaning is ambiguous, and until the context is known, one cannot give its meaning.

Some may consider this a reason for taking the line that the *meaning* of ' ought ' lies in the function or use which all normative ' ought ' sentences, most technical ' ought ' sentences included, have in common. Certainly we can presume—although it takes us beyond the range of this paper—that all these ' ought ' sentences have a common function, and that this is something like " to propose or express a decision on action to be taken ". [1] Once we see this core use, or meaning, we can much more easily understand why even the technical ' ought ', such as we have considered, is not wholly independent of other ' oughts '. For each decision and choice is within a matrix, affecting and affected by other decisions and choices ; thus each ' ought ' is within a matrix of ' oughts '. This is a point which needs emphasis, and perhaps it can be made most conveniently and effectively by saying that all normative ' ought ' sentences have this common meaning " to propose or express a decision ".

One can maintain, however, that all (or most) ' ought ' sentences have the same *generic* meaning (and underscore in this way that each ' ought ' is part of a system of ' oughts '), but add that ' oughts ' are ambiguous in their *specific* meaning. The latter can be said to vary with the *kind* of advice offered and to lie in the *kind* of reason which justifies ' ought ' sentences of this species.

If we take the former alternative, the meaning of an ' ought ' sentence—assuming it is employed in its normal and primary use —can be determined simply by examining the sentence itself. If we take the latter alternative, the meaning can be determined only by asking further questions. The latter alternative raises the difficulty of deciding specifically what factors in the context

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[1] And in this sense " to advise ". " To advise ", however, does not express very well what is common to all normative ' oughts '. For in some moral and prudential uses of ' ought ' the advice is so " strong " that it can hardly be called advice. Nevertheless, for convenience, I have spoken of the common use as " advising ".

determine the meaning of an expression, and what ones normally accompany the assertion of the expression. Which alternative should we take ?

It would be presumptuous to give an answer to this question without relating it to larger questions of meaning. But it should be noted that, in spite of the difficulties, the second alternative comes much closer to that sense of " the meaning of value expressions " which has most interested moral philosophers. For since the time of Socrates moral philosophers have been interested in the *meaning* of value expressions in the sense that they have been concerned to discover the *general criteria* or *reasons* which distinguish good from evil, and right from wrong. In seeking the meaning of value expressions they have sought to ascertain the major ways in which, and the principles by reference to which, value expressions are justified or proven. There has been flagrant misunderstanding of this point.

And actually, to discover ambiguous meanings of ' ought ' in the sense of the second alternative is to discover different ways in which ' ought ' sentences are justified. For example, the delineation of the elementary sense of ' ought ', with which we have been concerned, indicates that ' ought ' expressions which fall into this class, although interrelated with other ' ought ' expressions, are justified in a certain way and in the way above indicated. But if we take the first alternative (that in which the reasons for an ' ought ' sentence are said to be external to its meaning), then the discovery of the *meaning*, for example, of ' ought ', although a considerable accomplishment, is one that leaves major tasks of moral philosophy, at least in its traditional sense, yet to be done. Philosophers who take the first alternative tend to use the term ' meaning ' in a much more lexicographical and a much less normative sense than has been customary, and the gain in dispassionateness is offset by neglect of great normative problems implied in the practical uses of language. " To advise", as we have seen, is a use of language having many implications, and there is grave question whether this use can be understood adequately without considering the reasons and criteria of *good* advice. This is the danger which attends the ambiguity of the term ' meaning '. Nevertheless, much can be said for the first alternative and the neglect of important problems is surely not a *necessary* consequence of taking it.

The discussion of this point has brought us face to face with the fact that there are uses of ' ought ' other than that which I have been discussing, and at least one other which is a non-moral use. Looked at from the side of the advisee, ignorance of a means

is not the only occasion on which non-moral advice is called for.
There is also the situation in which one's desires conflict with
his larger goals, and more generally the situation in which there
is a conflict of purposes. In this kind of case the advisee may
not require information. He may have too much already. His
problem may be one of deciding between the competing purposes,
of reaching a decision and ending his vacillation. Or there is the
case in which the advisee himself is not conscious of a problem at
all : in this case ' ought ' may be used to try to dissuade one from
a course of action already decided upon.

Such ' ought ' sentences approach moral ' ought ' sentences in
complexity. I have said as much as I have of them only to
emphasize that the kind of ' ought ' sentence which I have con-
sidered is quite different from others, and yet they may be like it
in certain fundamental respects. This is sufficient to cast doubt
on the procedure of any moral philosopher who would make the
kind of ' ought ' sentence considered in this paper the paradigm
of all obligation sentences and thus of all obligations. Never-
theless, if we can become clear on the relatively simple kind of
' ought ' sentence, the " technical imperative " or " imperative
of skill ", perhaps our efforts to clarify those which involve greater
complexity will be attended with more marked success.

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III.—POPPER ON SCIENCE AND THE PRESOCRATICS

By G. S. Kirk

In his presidential address to the Aristotelian Society entitled
' Back to the Pre-Socratics ' (*Proceedings of the Aristotelian
Society* (1958-59), pp. 1-24) Professor K. R. Popper gave a partial
survey of Presocratic thought, in order to show that it supports
his idea that scientific discovery begins not from observation
or experiment but from theories or intuitions. For Popper
' the beautiful story of the Pre-Socratics ' (*op. cit.* p. 2) produced
fascinating cosmological explanations, some at least of which
were ' staggering anticipations of modern results ' (p. 3) ; and
those explanations, which were intuitions or theories and not
the result of observation, help to indicate that this is how science
actually proceeds. For ' all science is cosmology ' (p. 1)—with
this quasi-paradox, at least, I do not propose to disagree ; it
amounts to the sensible and very Heraclitean opinion—though
this is not an aspect of Heraclitus's thought upon which Popper
touches—that the main philosophical problem is that of ' under-
standing the world in which we live, including ourselves, who are
part of that world, and our knowledge of it ' (p. 1). Nor is
much comment necessary on the denial that ' it is better to study
the problem of the theory of knowledge in connection with our
knowledge of an orange rather than in connection with our
knowledge of the cosmos ' (pp. 2-3)—another reason why Popper
approves of the Presocratics. What he is maintaining here
(for a more lucid statement of which see the 1958 preface to his
The Logic of Scientific Discovery) is that what we ultimately want
to know about is precisely ' the world in which we live, including
ourselves ', and that it is therefore a mistake to create special
branches of philosophy which might envisage the theory of
knowledge, for example, in isolation, as pursued only in relation
to otherwise subsidiary test-questions like ' What is an orange? '.
The truth is, though, that no sensible person thinks it absolutely
' better ' to examine knowledge of an orange than to examine
knowledge of the world as a whole ; but he may think it *more
helpful* to concentrate at first on deliberately limited acts of
perception, as a useful stage on the way to assessing knowledge
in its wider aspect, as exercised on our total environment.
Again, when Popper asserts of specialization that ' for the
philosopher it is the mortal sin ' (p. 2) his words should be read
against the background of *The Logic of Scientific Discovery* and

related to logical positivism and its successors; he means no more than that specialization for its own sake is harmful, since it produces branches of philosophy that claim to be divorced from what Popper terms ' cosmology '. But to imply that *any* philosophical specialization is wrong—that philosophical means cannot be temporarily isolated from ultimate philosophical ends— is clearly mistaken.

The aspects of Popper's paper to be treated here are first (in § 1) his main submission about the nature of scientific discovery, and secondly (in § 2) the narrower question of how far the Presocratics can truly be said to illustrate that submission. I should say at once that in the course of his paper Popper made fairly severe criticisms of an interpretation of Heraclitus, for which I am responsible, in Kirk and Raven, *The Presocratic Philosophers* (Cambridge, 1957). In § 2 I take the opportunity of discussing these criticisms at some length; and it was from reflection on them that my wider interest in the paper as a whole, and in *The Logic of Scientific Discovery*, originated.

§ 1. *Popper's theory of scientific intuition*

The position is roughly as Popper states it, that ' Traditional empiricist epistemology, and the traditional historiography of science, are still deeply influenced by the Baconian myth according to which science starts from observation and then slowly and cautiously proceeds to theories ' (p. 3). He further argues that ' the function of the Baconian myth is to explain why scientific statements are *true*, by pointing out that observation is the " true source " of our scientific knowledge '. This second statement reveals something of Popper's own attitude to scientific methodology, which was formed, as he writes in the 1958 preface to *The Logic of Scientific Discovery*, in reaction against the attempts of the Vienna circle to base all philosophical and scientific truth upon verification by experience. Philosophy of the traditional type had assumed that philosophical truths were metaphysical in content and could be apprehended by intuition. The positivists of the Vienna circle denied this. In disagreeing with them Popper was asserting his belief in something not far distant from the classical conception of the rôle of philosophy. Yet science, with its emphasis on observation and controlled experiment, seemed from one point of view to be on the side of the new philosophy, which maintained that to go beyond the limits of the verifiable was profitless and meaningless. In this sense science was the enemy of the traditional conception of

philosophy as primarily concerned with unprovable hypotheses, intuitions and theories. But what if scientific method should prove to be almost the reverse of what had generally been assumed, proceeding not inductively from observation and experiment to theories, but from theories to the validation, or possible falsification, provided by experimental tests? Then logical positivism would lose a powerful support for its claim to epistemological impregnability. This is what Popper set out to show in his *Logik der Forschung* (1934), recently re-issued in an expanded form as *The Logic of Scientific Discovery* (referred to in what follows as *LSD*); and this is still the background of his recent paper ' Back to the Pre-Socratics '. Thus it is not surprising if Popper's own explanation of scientific discovery tends to go to the opposite extreme to what he calls ' the Baconian myth '. It seems possible that his view of science was not the result of an initial objective observation of how scientists proceed, but was itself, in an early application of Popper's developed theory, an ' intuition ' closely related to current philosophical difficulties and subsequently compared with actual scientific procedure.

Popper was naturally concerned with the logical difficulties inherent in the theory that science attains true knowledge by proceeding from particular observations to a universal conclusion or law. An induction based on a set of particular instances could not, by Hume's argument, be scientifically true. Popper tried to evade this dilemma by maintaining that science does not, as a matter of fact, proceed in this inductive manner, and that scientific ' truth ' cannot in any case be accepted as a datum : ' The old scientific ideal of *epistēmē*—of absolutely certain, demonstrable knowledge—has proved to be an idol. The demand for scientific objectivity makes it inevitable that every scientific statement must remain *tentative for ever*. It may indeed be corroborated, but every corroboration is relative to other statements which, again, are tentative ' (*LSD*, p. 280). What scientists produce are theories which may work for the time being and allow further progress, but which may subsequently have to be discarded because of the discovery of one new apparent fact with which they do not accord. Thus in eluding Hume's dilemma Popper abandons the concept of absolute scientific truth. At the same time, though, in making ' falsifiability ', or the lack of it, the criterion of whether or not a theory is to be regarded as ' scientific ', he implicitly accepts that epistemology is somehow ultimately based, as the positivists required, on the immediate impact of particular experiences. Popper therefore seems to

compromise between traditional philosophy and the tenets of
linguistic analysts, by arguing that we should retain something
like the methodology of the former with something not too diff-
erent from the epistemology of the latter. The possible internal
inconsistencies of this in many ways attractive position may be
left to others to assess.

What I wish to examine in particular is Popper's account of
the method of scientific discovery. I question what he describes
as his ' most central contention ' (' Back to the Pre-Socratics ',
p. 22) : that ' there is no way [sc. of expanding knowledge] that
starts from observation or experiment. In the development of
science, observations and experiments play only the rôle of
critical arguments. It is an important rôle ; but the significance
of observations and experiments depends *entirely* upon the
question whether or not they may be used to *criticize theories* '.
Some of this is of course true, and constitutes an important
correction of the exaggerated idea that science always proceeds
methodically from experiment to theory. But in pronounce-
ments of this kind, which are of course distillations of a more
diffuse argument, Popper disguises the fact that science ulti-
mately does start from observation—and thus, though he him-
self denies this, that it *is* in part inductive, even if not so rigidly
inductive as is often suggested. Naturally, most attempts to
extend scientific knowledge start immediately from an idea or
intuition, which is then tested ' scientifically ' and accordingly
approved, modified, or rejected. But the idea or intuition which
acted as the starting-point of any such particular process is
itself the culmination of a previous process or series of processes
which must have been ' inductive ' in some valid sense because
it must ultimately have been based on an indefinite number of
particular observations. Theories can only be founded, whether
directly or indirectly, on the basis of a complex of observations
or experiences. If those experiences are inadequate in scope or
in some other respect, or if they are improperly related to each
other, they cannot lead to a satisfactory theory—they will
lead to a theory (or better ' intuition ', since at this stage the
formative mental process is often, admittedly, not deliberate
but sub-conscious) which will not survive the tests applied in
the second stage, the one which Popper and ordinary usage count
as ' the scientific process ' proper. What Popper has done, then,
in his description of the process of scientific discovery, is to
ignore the essential preliminary stage of making observations, of
building up a complex structure of experience out of which, by
some kind of inductive process, come intuitions or universal

21

theories. Scientific discovery does not differ in this respect
from any other kind of theorizing, whether ' true ' or ' untrue '
in effect. Popper concentrates solely on the second stage, when
such an intuition is brought into the open, tested in the laboratory,
and, if not contradicted, promoted to the status of a ' corrobor-
ated ' scientific theory representing a growth of knowledge.

How does Popper attempt to answer this extremely obvious
objection to his theory of scientific discovery? He does so
—though without discussing the matter at all fully—in two ways
which are closely related to each other.

(i) He claims that *how* men arrive at theories cannot be deter-
mined, because the process is not entirely a rational one: ' How-
ever, my view of the matter, for what it is worth, is that there is
no such thing as a logical method of having new ideas, or a
logical reconstruction of this process. My view may be expressed
by saying that every discovery contains " an irrational element "
or " a creative intuition ", in Bergson's sense ' (*LSD*, p. 32).
At the same time he admits some connection between theories
and sense-perception : ' I do not wish to deny that there is a
grain of truth in the view that mathematics and logic are based on
thinking, and the factual sciences on sense-perceptions. But
what is true in this view has little bearing on the epistemological
problem ' (*LSD*, p. 93). But presumably Popper does not think
that the whole process from sense-perception to theory is an
irrational one ; even allowing for the sake of argument that there
may be some illogical jump in the process, a large part of the
process is still rational and can be studied logically. This part
includes some kind of preliminary classification and sorting,
leading to the collection in the mind of similar particulars, and
since it is logical it cannot be summarily dismissed from the
field of epistemology.

(ii) He asserts that the whole question of the origins of a
scientific theory is from this point of view unimportant : ' The
question of how it happens that a new idea occurs to a man—
whether it is a musical theme, a dramatic conflict, or a scientific
theory—may be of great interest to empirical psychology ; but
it is irrelevant to the logical analysis of scientific knowledge '
(*LSD*, p. 31). Popper adds these words : ' This latter is con-
cerned not with *questions of fact* (Kant's *quid facti*?), but only
with questions of *justification or validity* (Kant's *quid juris*?) '.
But in what I have called the first stage of scientific discovery the
point at issue is not questions of fact *simpliciter*, but *the interrela-
tion and arrangement of facts* ; and this cannot be totally dis-
sociated from ' questions of justification or validity '. All

Popper's arguments at this crucial point are based on this con-
fusion, as it seems to me to be, or on the related distinction, to
which he attaches great emphasis, between ' *the psychology of
knowledge* which deals with empirical fact, and the *logic of
knowledge* which is concerned only with logical relations ' (*LSD*,
p. 30). Popper uses this distinction as a weapon against em-
piricist attempts to examine the first stage of scientific discovery ;
but all his attacks on what he terms ' psychologism ' are weak-
ened by the artificiality of his classification into ' facts ' and
' relationships '.

Is it possible to detect an element of circularity in Popper's
argument as a whole? This is what he seems to be saying :
' We can overcome the problem of induction (so far as scientific
discovery is concerned, and *a fortiori* in other types of theorizing)
by a new conception of science—that it starts from theories,
not from observations, and then proceeds to test these theories
deductively. Against the criticism that the theories are them-
selves formed inductively, from prior observations, I reply
that the process by which theories are formed is no business of
mine, is no part of the logic of knowledge, since the connection
between facts and theories cannot be determined with certainty—
partly because I personally feel it contains an irrational step,
partly because in any case the theory of induction is unac-
ceptable'.

In his presidential address Popper again decides, at a critical
stage, that the question of origins is irrelevant : ' . . . I do not
see at all why the question of origin should be important. What is
important about a theory is its explanatory power, and whether
it stands up to criticism and to tests. The question of its origin,
of how it is arrived at—whether by an " inductive procedure "
as some say, or by an act of intuition—may be extremely inter-
esting from a point of view of the biography of its originator,
but it has little to do with its scientific character ' (' Back to the
Pre-Socratics ', p. 7). Up to a point this is admirable, typical
as it is of the practical urge of Popper's epistemology, of his
desire to by-pass mere technicalities and concentrate on ap-
proaches capable of leading to a positive gain in knowledge.
Yet even apart from the logical difficulties outlined above, I
am not convinced that the matter of origins is so unimportant
as Popper makes out. For one thing, ' the biography of its
originator ' is obviously relevant to the historical evaluation of a
theory, and the philosophy of science makes frequent and essential
use of historical examples. And then is it really the case that ' all
scientific statements are hypotheses, or guesses, or conjectures '

(*op. cit.* p. 3)? If we accept the premise that science starts
from intuitions, and suppress the rest, it may seem legiti-
mate to accept that general conclusion. Yet such a conclusion
promotes the misleading assumption that all scientific state-
ments, if ' corroborated ' by tests, possess the same degree of
' truth '. Yet if one remembers, as I maintain one should, that
all scientific theories are ultimately based on experience, then
the relation of a theory to its origins in experience, including its
remoteness from those origins, is relevant to the kind of test
that should be applied to it, to the effectiveness of that test in
terms of validation or invalidation, and to the kind of ' truth '
which may ultimately emerge. To claim that *all* discoveries,
including presumably the discovery of axioms, are ' hypotheses,
or guesses, or conjectures ' is to undervalue the ultimate basis of
epistemology, namely agreed experience, and thus to frustrate
Popper's own ideal of increasing knowledge of the world in which
we live and of ourselves.

This section may be summed up by the claim that Popper's new
description of the nature of scientific discovery does not really
circumvent, as it professes to do, the problem of induction, since
it leaves out of account a vital preliminary stage to scientific
or any other kind of theorizing. Thus it does not remove science
and philosophy out of range of the critique of the linguistic
analysts. As an empirical description of scientific methodology
Popper's account, in spite of its merits, is incomplete ; and
although it simplifies epistemology in one respect, by explaining
scientific error, it complicates it in another, by ignoring the
empirical background of scientific and philosophical speculation
and blurring the distinction between theorizing of different kinds.

In the section which follows a different aspect of Popper's
presidential address is considered : his historical assessment of
the Presocratic philosophers, and the value of his conviction
that they illustrate his theory of the nature of scientific discovery.

§ 2. *Popper on the Presocratics*

Some years ago I tried to show (*The Cambridge Journal*, vi
(1952-53), 515 ff.) that another philosopher, R. G. Collingwood, in
the course of supporting an idea of his own about the philosophy
of history, had given a misleading account of the early Greek
philosophers. Popper's article now presents a comparable
situation, so it seems to me, and it may be salutary to marshal
some of the evidence once more in the face of an assessment of
certain Presocratics which is interesting but in some respects

inaccurate. This is not to say that either account—Collingwood's (especially in *The Idea of Nature*) or Popper's—is without value. It is self-evident that Popper, even apart from his central thesis, has many acute and revealing things to say. It is always useful, in any case, to see how a practising philosopher reacts to his earliest western predecessors. Yet the Presocratics, because of the boldness, simplicity, and variety of their ideas, and also because of the great difficulty of delimiting these with any sort of precision, have fallen victim to some particularly wild interpretations by philosophers (one thinks, for example, of Hegel, Nietzsche and Heidegger), which if allowed to stand uncriticized could only obstruct the formation of a reasonable historical valuation.

If I seem to be claiming to defend the Presocratics from philosophers, it should be made clear that Popper also considers that they need defence —not from philosophers but from ' the experts ', among whom he is kind enough to include myself. He has some hard words for ' the experts ', by whom the ' simple straightforward *rationality* ' of the Presocratics has been overlaid (p. 1). He asserts that he himself is not an expert : ' I am completely out of my depth when an expert begins to argue what words or phrases Heraclitus might have used, and what words or phrases he could not possibly have used ' (p. 2). Popper speaks professedly as ' an amateur, as a lover of the beautiful story of the Pre-Socratics . . . based on the oldest texts we possess ' (p. 2) ; and he states that ' The exciting story of the development of the problem of change appears to me in danger of being completely buried under the mounting heap of the minutiae of textual criticism ' (pp. 9-10). Now by all means, if the specialists in any field are getting it all wrong, let them be told so ; but the particular trend of Popper's remarks displays an apparently total disregard for the nature of the evidence on the Presocratics and for the inevitable problems of its assessment. As though ' what words or phrases Heraclitus might have used ', for example, is irrelevant to the assessment of what he thought! It is these ' words or phrases ', and the other *verbatim* fragments of the Presocratics themselves, and not the reports of Plato, Aristotle, and the doxographers, as Popper appears to think, that are ' the oldest texts we possess '. They are extremely valuable as evidence, in many cases of greater value than later and demonstrably one-sided accounts. It should in fact be obvious even to an ' amateur ' that the reconstruction of Presocratic thought must be based both upon the later tradition and upon the surviving fragments. In many instances it is difficult, though

it is not impossible, to distinguish *verbatim* quotations from para-
phrases, or to separate original fragments from the context of
the ancient authors who quoted them.   Most people would agree
that considerable progress has been made in this direction even
since Popper formed his views on the Presocratics.   To describe
this necessary and constructive activity, as he does, as though
it were mere obstructive pedantry, to talk scornfully of ' the
minutiae of textual criticism ' in this context, is little short
of absurd.   Indeed the whole amusing pose of the amateur *versus*
the experts may be thought to impede rather than to promote
that constructive interchange of ideas on which Popper himself
lays so much stress (*e.g. op. cit.* pp. 22 ff.) as the chief means of
philosophical and scientific progress.   ' The experts ' have had a
brush with this ' amateur ' before, over *The Open Society and its
Enemies* ; they are not yet so blinded by minutiae that they will
not read what he writes on their subject with the closest attention,
even without the stimulus of such paradoxes.   With this comment
we may turn to consider Popper's account of some of. the
individual Presocratic theories.

Thales.   Of the early Presocratics Popper remarks (on p. 3 of
' Back to the Presocratics ', *Proceedings of the Aristotelian Society*
(1958-59), to which all subsequent simple page-references refer) :
' Here we find fascinating ideas, some of which are strange and
even staggering anticipations of modern results while many
others are, from our modern point of view, wide of the mark ;
but most of them, and the best of them, have nothing to do with
observation '.   He then considers Milesian theories of the shape
of the earth and the manner of its support.   Thales thought
that the earth floated on water like a log (so Aristotle) or a ship
(so Seneca, representing Theophrastus) ;   earthquakes were
caused by the rocking of the water underneath.   Popper admits
that Thales's ship-analogy must have been based on observation,
but maintains that for the conjecture that the earth is supported
by water ' he could have no basis in his observations ' (p. 3).
On the next page we read that his theory ' though in no sense
based upon observation, is at least inspired by an empirical or
observational analogy '.   The distinction between ' being based
on ' and ' being inspired by ' is a rather fine one, but what is
meant is that there is no direct evidence in nature that the earth
floats on water (though I would observe that the welling-up of
springs from beneath the earth's surface, for example, might be
taken as indirect evidence).   Let us concede this for the sake of
argument.   Are we therefore to infer with Popper that Thales's

theory must have been based on a non-empirical intuition? Such
a supposition, unlikely as it is in itself, shows that Popper leaves
out of account all recent discussions of Thales. It is not a question
of ' the minutiae of textual criticism ' here, but of general know-
ledge of Near-Eastern mythology and its influence on Greek
cosmogony. The creation-myths of the Mesopotamian and
Egyptian river-cultures had envisaged the world as built on a
raft on the primeval water or as thrusting up from beneath its
surface. The latter is the common Egyptian version ; it is not
hard to see how natural an idea this was for a people whose whole
life revolved around the emergence each year of their re-vitalized
fields above the receding waters of the Nile. Though mythical
in form, then, this idea was firmly based, for the Egyptians, upon
observation and experience. That there were waters under the
earth is an elaboration which also appeared widely—in Mesopo-
tamia of course, in Egypt itself (the sun-boat sails under the
earth each night), and in the Old Testament (*e.g.* Tehom is ' the
deep that lieth under ', *Gen.* xlix. 25). The surrounding river
Okeanos in Homer, and its untypical description in book 14
of the *Iliad* as ' origin of all ', are, almost certainly, indirect
products of this same complex of ideas. The cosmology of
Thales, in its main aspect, is another product, but one in which the
mythological form has been abandoned. In that, and no doubt
in his making explicit what was only implicit before—notably
that this is the way the world is supported—lies much of his
historical importance. Evidence for Thales is so tenuous,
though, that we cannot say with *total certainty* that his theory
was based on the earlier mythological accounts—to which,
however, he had access through Egypt (a land in which he showed
great interest and which he may have visited), possibly through
Sardis, and obliquely through the *Iliad*. Yet is is *highly probable*
that his theory was so based—or at the lowest evaluation perfectly
possible. Would it not have been better for Popper to inform his
audience and readers of this possibility? They would then have
been able to see more clearly that Thales's ' intuition ' may well
have been ultimately based, after all, on a very specific experience :
not that of Thales himself, but of the influential river-peoples
with whom the widely-diffused account long ago originated.

Thus Thales's theory of the way the earth is supported is
probably based on experience, though perhaps not in the first
instance on his own experience. That this experience was
crystallized and passed down in mythical form, to be rationalized
once again by Thales, does not diminish its empirical nature,
although it does diminish the ' scientific ' quality of Thales's

theorizing at this point. To this extent it makes Thales even less
valuable as an example of the intuitive method in scientific
discovery which Popper was seeking to illustrate. Yet we may
be certain that Thales did not just say to himself, ' I must
rationalize a myth or two '. The pragmatic nature of many of
his activities, like his feats of mensuration, diversion of a river,
and so on, suggests that he would have used his own observations,
as well as previous theories, in the isolation and solution of any
physical problem. Intuition, too, he would have used—this
we may admit ; but intuition both based upon and supported
by observation and experience.

Popper asserts of Thales's theory that it ' strangely anticipates
the modern theory of continental drift '. We must reject this
implication that the manner in which his theory was formed
consequently has special relevance to a study of scientific method.
The coincidence between the ancient and the modern theory is
neither sizeable nor significant. It is not even particularly
' strange ', given the phenomenon of Presocratic thought. The
Presocratics poured out cosmological theories of such variety
and imagination that the strange thing would be if some coinci-
dences between those and modern cosmological accounts could
not be found. Very few of these coincidences are really signi-
ficant ; though that between ancient and modern atomism is an
exception up to a point, because, although the motives and
essence of each are quite distinct, it was historical knowledge of
the ancient theory that promoted the atomistic theories of the
eighteenth century. But I doubt if it was Thales who gave
Wegener the idea of continental drift.

Anaximander. It is not surprising that Popper lays great stress
on Anaximander's idea that the earth remains motionless, to
quote Hippolytus, ' because of its equal distance from all things '.
This, Popper maintains, is a highly intuitive idea, one which
does not even use observational analogies : ' . . . the idea of
the earth's free suspension in space, and the explanation of its
stability, has no analogy whatever in the whole field of observable
facts ' (p. 4). In part I agree. The only specific experience
which might be directly involved in this idea would be of ' Bur-
ridan's ass ' situations in real life ; otherwise the explanation
given is very abstract—that is, far removed from specific ex-
periences, even if ultimately generalized from them. Popper
further observes, acutely, that in describing the shape of the earth
as like that of a column-drum Anaximander *was* using an ob-
servational analogy ; and that it was just this concession to

experience that led to a weakness in the theory as a whole namely the inconsistency that a cylinder would not remain in equilibrium in a spherical world.   I would add that Anaximander made the earth's surface *flat* because it appeared to be so, at least to the superficial glance which was all that many Presocratics seem to have considered necessary ; he made it *circular* because the horizon does seem to encircle us, as indeed mythological tradition, with its surrounding Okeanos, had implied ; he gave it *depth* because it seemed very solid below, as the tradition also testified (Tartaros is far below in Homer and Hesiod) ; and he made it *one third as deep as it was wide* to fit in with the ratio of the heavenly bodies, which was not opposed to observation and which embodied a traditional symmetry between sky, earth, and the underparts of earth—*cf.* Homer, *Il.* 8. 16, etc.   Thus Anaximander's arrangement of the cosmos was related to observation both directly and as expressed in mythical or traditional form.

On page 6 Popper proceeds to argue that Anaximander's account of the heavenly bodies, according to which sun, moon and stars are orifices in wheels of fire enclosed by mist, is designed to preserve the stability of his system : for if sun and moon, for example, were the solid masses that they appear to be, then, when they are both visible on the same side of the earth, the earth could not be in equilibrium.   This is an attractive idea ; but Popper is not justified in writing of the wheels of the fixed stars that ' together they form a sphere round the earth, in accordance with the postulate that all things are positioned at similar distances from the earth ' (p. 6).   For, as I shall explain below, we do not know that the apparent uniformity of distance of the stars did not precede the postulate and help to determine it, rather than *vice versa.*   On details of Popper's account of the wheels of the heavenly bodies the following comments may be made. (i) There are difficulties in the assumption that the wheels of the fixed stars rotate round the axis of the earth : see Kirk and Raven, *The Presocratic Philosophers,* page 136 f.   (ii) The fire in the wheels is not ' smothered ' (Popper, p. 9) in eclipses, etc., it is merely hidden by the opaque mist or air.   (iii) On the same page the assertion that ' fire . . . needed air and breathing-holes ', implying (I presume) that the fire in the wheels feeds on the surrounding air, should be put forward merely as a suggestion. There is no specific evidence to support it, and the word used by the doxographers to describe the breathing-holes, ἐκπνοαί, is against it.

Popper also contends (p. 5) that Anaximander's theory of equilibrium contained a deliberate criticism of Thales's idea of

how the earth was supported ; for the water that supports the earth itself needs support, and so on *ad infinitum*. It was Aristotle, in fact, who first certainly raised this objection : ' as though the same argument did not apply to the water supporting the earth as to the earth itself! ' (*de caelo* B 13, 294 a 28 ff.). This is just the sort of objection that Aristotle would make; we cannot be so sure about Anaximander. Thales would presumably have replied, ' But the water which supports the earth goes down indefinitely, you would never come to its limit, and it does not need any other support ' (*cf.* Xenophanes, fr. 28 as against Hesiod, *Theog.* 811). To this reply, at least, Anaximander with his ' indefinite ' basic substance might not have been totally unsympathetic. It must further be remembered that Anaximander, having rejected water as primary substance for quite different reasons, and having substituted something that had no counterpart in the developed world, could not use Thales's kind of explanation for the support of the earth, based as this was on observational analogies and evidence derived from the developed world, and had to produce an explanation of his own that was inevitably a somewhat abstract one. It must remain a moot point, then, whether or not Anaximander's theory of equilibrium was a conscious correction of his predecessor.[1]

It is obvious from the very nature of Anaximander's originative substance, which was specifically not identifiable with anything in our world, that he was trying to explain things in terms that went beyond those of immediate observation and experience. Even so Popper seems to me to give an extreme and improbable statement of the case, especially in regard to the position of the earth. A different and in my view more probable account can be given of the origins and motives of the theory of equilibrium ; one which does not stress nearly so strongly the intuitive, *a priori*, non-observational element in it.

We do not know a great deal about Anaximander's cosmogony, but we do know (from Ps.-Plutarch, *Strom.* 2, DK 12 A 10) that

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[1] Thales and Anaximander were fellow-townsmen, admittedly, and probably not too different in age. Contact between them must be presumed. But Popper overstates the probable coherence of the Milesian ' school ' and the probable amount of discussion and mutual criticism within it. He is impressed (p. 4) by the Suda's description of Thales as Anaximander's ' teacher and kinsman '. But this represents a standard assumption by Alexandrian biographers and later compilators : that philosopher X, if he came from the same city as philosopher Y and was somewhat older than him, must have been his teacher, and frequently his ' kinsman ' also. This is usually a purely speculative piece of schematization.

early in the world's history a kind of sphere of flame surrounded
a mass of air or mist, the central part of which concreted to form
the earth.   Then the flame broke away, presumably because of
the expansion of the mist, and somehow became enclosed in the
latter—presumably in part of that mist which had expanded—
so as to form the wheels of the heavenly bodies.   Thus both the
wheel-like shape of these, and their concentric disposition round
the earth, would arise naturally from the initial physical concept
of a sphere of flame forming round air or mist, the centre of which
becomes the earth.   But this concept is itself obviously based on
the arrangement of the world of our experience : the bright, fiery
sky at the outside, earth in the middle, air and mist in between.
What Anaximander has done, apparently, is to imagine a kind
of primeval explosion as the cause of the expansion of our world
from an original nucleus or core.   The elements of this nucleus
are ' the hot ' and ' the cold ', as the doxographers put it, or
flame and mist.   The disruption and expansion of the surrounding
sphere of flame causes the formation of separate circles of fire
inclined at different planes : here is probably the basis of the
conception of the heavenly bodies.   Some correction of Thales is
as likely to have been intended here as over the manner of the
earth's support ; for now the sun, for example, could travel
freely under the earth at night, while Thales's conception had
presupposed something not too far distant from the old mytho-
poeic equipment of golden boats or the like, in which the heavenly
bodies could sail round Okeanos from west to east.   Anaximenes,
later, was evidently still exercised by this problem, which must
have been a conspicuous one and to which Anaximander had
offered a brilliant solution by no means incompatible with what
our experience suggests.   Now in his expanded world Anaxi-
mander was left with the earth at the centre, surrounded by the
wheels of the heavenly bodies at great distances.   How is the
world to remain, as it appears to remain, in its place ?   Clearly
it could not be supported from beneath, since it has no contact
with anything that could support it—certainly not the ' in-
definite ' itself.   Some quite new explanation had to be given,
and Anaximander hit upon the idea of lack of motive, in a
spherical system, to move one way rather than another.   A
brilliant conjecture, as Popper says ; but according to the account
given above it was in part suggested by a cosmogonical concept
which itself arose from imaginative observation of the ordinary
world.   This makes the non-observational, *a priori* quality of
Anaximander's theory of equilibrium considerably less conspicu-
ous than in Popper's account, according to which that theory

came first, as an act of pure intuition, and then the description of
the position of the earth and the nature of the celestial bodies
was deduced from it.

Nevertheless Anaximander's idea was sufficiently remarkable.
It is certainly the best Presocratic example of a potentially
productive theory in which the intuitive element was relatively
high, the observational element relatively low.   I doubt, though,
whether this is adequate for the defence of Popper's thesis that
all scientific theories are based entirely on intuitions.   It is also
excessive to claim (as Popper does on p. 4) that the idea ' made
possible the theories of Aristarchus and Copernicus ', though we
must remember Popper's odd conviction that ' there is the
most perfect possible continuity of thought between [Presocratic]
theories and the later developments in physics ' (p. 7).   It is
almost equally excessive to assert that ' by stimulating criticism,
it also led . . . to the Pythagorean theory of a central fire '.   This
latter theory was in all probability another assumption with a
relatively strong *a priori* element, unaffected by Anaximander
(see Aristotle, *de caelo* B 13, 293 a 18 ff.).   The Pythagorean
theory, which achieved great notoriety, may have affected
Aristarchus ; there is little reason for supposing that Anaxi-
mander's theory did so.

It has been seen that much emphasis is laid by Popper on ' the
exciting story of the development of the problem of change ',
which he considers to be ' in danger of being completely buried
under the mounting heap of the minutiae of textual criticism '
(pp. 9-10).   Yet closer attention to the texts would certainly
have saved him from some errors in describing change according
to Anaximander.   It is quite untrue that winds were responsible,
as well as for the weather, ' for all other changes within the cosmic
edifice ' (p. 9), or that ' the winds . . . were conceived as the agents
of all change ' (p. 10).   Popper is perhaps misled by Seneca,
Qu. Nat. II, 18, DK 12 A 23 : ' Anaximandrus omnia ad spiritum
rettulit.'   But by ' omnia ' here Seneca merely means ' all
meterological phenomena ' ; so much is made plain by his context.
That this is what Anaximander thought is confirmed by Aetius,
III, 3, 1-2, in a clear reproduction of Theophrastus (DK *ibid.*,
cf. Kirk and Raven, *The Presocratic Philosophers*, pp. 137 ff.).
Other natural changes in the cosmos, of which there were of
course many kinds, were certainly explained in the main, insofar
as they were explicitly accounted for, by the operation of the
important Anaximandrian principle of cosmological *injustice*
being inevitably followed by *retribution* : thus the excess of cold/
wet that produces winter is presumably punished by a drastic

diminution of this group of substances in summer, and a corresponding new excess of hot/dry. Although Popper devoted much of his paper to the ' development of the problem of change ', he curiously said nothing whatever about this important and interesting attempt, suggested in the single extant fragment of Anaximander, to provide some kind of explicit motivation—albeit in a metaphorical or anthropomorphic form—for the major changes in the natural world. On the contrary he asserted that because Anaximander posited an infinity of worlds ' There was . . . no need to explain motion, no need to construct a general theory of change ' (p. 10). It is far from clear how Popper envisages these worlds of Anaximander's, or how he thinks that they made a theory of change unnecessary—which they evidently did not do, since Anaximander had such a theory. Nor does he discuss the contradictions in the evidence for innumerable worlds in Anaximander, which have given rise to considerable controversy as to their nature or indeed their very existence as part of Anaximander's thought.

Heraclitus. Popper supports in an extreme form the traditional interpretation of Heraclitus's physics, which goes back to Plato, against the altered emphasis suggested by Burnet on the basis of the fragments and developed by Karl Reinhardt and later by myself. Popper thinks (see p. 12 of his paper) that all the ' experts ' accept the kind of interpretation advanced in *The Presocratic Philosophers.* He should be relieved to learn that on the question of universal and constant flux many of them do not. There is much room for disagreement here, but it is the grounds for disagreement that count ; and it seems to me that Popper, although he usefully develops some objections already raised by others, starts from a position of his own which is in certain respects a demonstrably false one. Yet he has much that is valuable to say, and his general position as a defender of the tradition could be correct, even if not for the reasons which he advances.

The view put forward by Popper is that while the Milesians ' looked at our world as our home . . . for Heraclitus, the house was on fire ' ; ' there are no solid bodies. Things are not really things, they are processes, they are in flux' (p. 11). This is a somewhat extreme elaboration of Plato, *Cratylus,* 402 A :' Heraclitus somewhere says that all things are in process and nothing stays still, and likening existing things to the stream of a river he says that you would not step twice into the same river.' Now Popper observed in *The Open Society* (n. 2 to chap. 2) that

Burnet had challenged the belief that this was Heraclitus's central doctrine ; and he repeats this observation, with much else from the earlier work, in his presidential address. Yet Burnet did not attack the Platonic interpretation in itself ; on the contrary he accepted the doctrine of flux, but claimed that ' it is not the most original feature of the system. The Milesians had held a similar view ' (*EGP* [3-4], p. 146) ; and he argued that for Heraclitus the idea of a stability that persists through change was equally or more important. There is some truth in the words quoted from Burnet, but they nevertheless constitute an exaggeration. The Milesians seem to have held a view of change which, though not totally incompatible with that attributed to Heraclitus by Plato, was obviously much less extreme. On page 15 Popper states that this argument of Burnet's is repeated by Kirk and Raven. This is not, I think, the case. I was and am impressed, as almost all other scholars have been, by Burnet's emphasis on the importance of stability in Heraclitus ; but unlike Burnet, and following Reinhardt, I rejected the letter of the Platonic interpretation that everything is literally changing all the time. I also differed significantly from Burnet in writing that ' all Presocratic thinkers were struck by the dominance of change in the world of our experience. Heraclitus was obviously no exception, indeed he probably expressed the universality of change more clearly than his predecessors ' (*The Presocratic Philosophers*, pp. 186 f.)—a statement of which Popper quoted the first sentence but not the second.

On page 15 Popper examines my contention that ' nothing in the extant fragments suggests ' that ' Heraclitus really thought . . . that a rock or a bronze cauldron, for example, was invariably undergoing invisible changes of material '. He replies that the fragments about fire [frr. 30, 31, 90] show that all matter is, somehow, fire—and is therefore constantly changing. In a sense it is true that the totality of matter is envisaged as fire, though it is absolutely untrue that Heraclitus inevitably ' also says that all matter, like fire, is a process ', as Popper asserts on page 16. Fragments 30, 31 and 90 stated that the world-order is an ever-living fire, that fire turns into sea and earth, that all things are an exchange for fire. These sayings also show that it is the world-order as a whole that is a fire—but a fire which is being extinguished in measures so as to become sea, then earth. Sea and earth are what fire ' turns to ' ; they are not themselves fire, they have been ' exchanged for it ', and according to fragment 36 it is ' death ' for soul-fire to become water and for water to become earth. At the same time sea and earth, or, rather, other parts

of them, are being ' kindled ' back into fire in the same measure
as governed their change from it. This ' measure ' persists
through change : it is an important aspect of the Logos, and is
thus intimately connected with the nature of cosmic fire itself.[1]

Many of the objects of our world, then, are not made of fire in
any normal physical sense. They are fire which is being, or has
been, extinguished ; they are exchanged for fire; they are dead
fire. Therefore they do not, presumably, share the *continuous*
change of fire or flame itself. My argument is that Heraclitus
regarded the world-order *as a whole* as a fire, and that this was
the important thing for his theory of change. Parts of this
cosmic bonfire are temporarily extinguished—mountains and rock,
for example, for the most part. Yet not the whole of any of the
major divisions of matter is ' dead '—this would destroy both
the measure and the ' strife ' on which the perpetuation of this
measure depends (frr. 80, 53) ; nor is it ' dead ' for ever, for the
world is a place of change, a constant fire, and everything in it
must eventually change too. This would allow Heraclitus to
accept, what common sense strongly suggests, that many of the
things in our world are not changing all the time, though they all
change some of the time. Popper argues ably against this
position, which I admit is far from certain. He claims, however,
not to understand what ' common sense ' means here, and adds that
we find ' ideas far removed from common sense in Anaximander,
Pythagoras, Xenophanes ' even before Parmenides, and that we
do so too in Heraclitus. But I would deny this : ' gross depar-
tures from common sense ', as I called them, were carefully
avoided by the Presocratics, and this is one of the basic kinds of
' clarity ' of early Greek speculation. Naturally many of the
conclusions of the early Presocratics were contrary to common
sense ; but they were not gratuitous departures from it (' gratuit-
ous ' expresses my meaning better than ' gross ') since *they appeared
to be entailed by arguments which themselves depended on observation*

[1] It is extraordinarily difficult, indeed impossible, to describe Heraclitus's
views on this subject in precise terms, partly because the evidence is too
sparse but partly also because Heraclitus himself, who was not working
within the framework of a developed formal logic, was probably extremely
loose in his expression, and perhaps also in his very conception, of the
relationships between fire, Logos, and the constituents of the manifold
world. In the short account in *The Presocratic Philosophers* I deliberately
chose a vague word, ' archetypal ', to express the vagueness of fire's
priority in the world. Popper derides this choice of word (pp. 15 f.)—
which, however, quite obviously is not intended to imply *cosmogonical*
priority in Heraclitus. The choice of word may not be the best possible,
but the problem is a real and an important one—though not for Popper,
to whom the wording of the fragments is a pedantic detail.

and common sense. Thus the Pythagoreans, if they thought that
things are made of numbers, were scarcely advancing a common-
sense point of view ; yet it was a view that arose directly, if
mistakenly, from a particular and very striking observation :
that the main notes of the musical scale are related to each other
in terms of whole numbers. In Anaximander only the theory of
innumerable worlds seems gratuitously contrary to common sense,
and I have advanced other reasons elsewhere for doubting whether
he held any such theory. Xenophanes's more fantastic ideas
seem to me best explained as deliberate exaggerations, parodies
perhaps of his predecessors. Can we then say that the conclusion
that all things separately are in permanent flux is necessarily
entailed by any course of reasoning followed by Heraclitus ?
The answer is surely negative. Against this Popper emphasizes
(on p. 16) the paradoxical quality of some of Heraclitus's pro-
nouncements, which he takes to be a sign that Heraclitus was
not governed by common sense. But the paradoxes in
Heraclitus, most notably that opposites are really ' the same ',
are carefully worked out and demonstrated, and do not suggest
any gratuitous abandonment of common sense ; rather the
contrary.

At this point the argument becomes somewhat rarefied. I
agree, though, that it remains theoretically possible that certain
invisible changes of our experience, for example the gradual
rusting of iron, cited by Popper, struck Heraclitus so forcefully
that they persuaded him to assert that all things which were not
in visible change were in invisible change. I do not think
however, that the extant fragments suggest that this was the case.

Popper justifiably raises, as others have, the question of Plato
and Aristotle : are we entitled to go against the ancient tradition
about Heraclitus, according to which he said that everything is
in flux ? Obviously, as Popper insists, this tradition cannot be
disregarded unless there is good evidence for doing so. Yet some
of this ' good evidence ' must be evidence about the nature and
reliability of the tradition itself. Popper contents himself with
the erroneous reflection that Plato, Aristotle and the doxographic
tradition are ' the oldest texts we possess ', and seems unaware of
how precarious the ancient tradition is over not one or two, but
scores of matters in the history of sixth- and fifth-century Greek
thought. Cherniss has shown conclusively that Aristotle often
misinterprets his predecessors. It is easy to go too far in deni-
grating Aristotle as a historian ; but that he was capable of
serious error in the assessment of his predecessors, including
Plato, is beyond dispute. Theophrastus often followed Aristotle ;

and the doxographical tradition is virtually Theophrastus with compressions, distortions and omissions. As for Plato, he at least was not attempting to act as an objective historian. These are all well-known facts that need not be laboured. They should not be exaggerated ; but they are enough to show the limitations of the attitude that ' What is good enough for Plato and Aristotle is good enough for me '. At the same time it is only the extremity of Popper's position that deserves criticism—that the evidence of Plato, Aristotle and Theophrastus must always be treated with extreme care and respect is manifest.

Hitherto I have been discussing whether Heraclitus posited *constant* change in every single physical object, as Popper and many others think, or, as I think, constant change in the world as a whole, with some things having temporary periods of stability. For Popper at least the difference between these two opinions is a vitally important one, since he infers from the traditional interpretation that for Heraclitus ' Things are not really things, they are processes ' (p. 11). Few supporters of the traditional interpretation would go so far as this, nor would they find Heraclitus such a useful example of intuition preceding scientific discovery as Popper does. Yet Popper's understanding of the physical nature of the particular changes he envisages for Heraclitus is a reasonable one. The idea to which I was most opposed was that invisible particles of matter were constantly being discharged from any object rather like electrons being discharged from the atomic nucleus. And yet Empedocles, only a generation or two later, advanced something very like this idea in order to explain the mechanism of vision : everything in nature gives off ' effluences ' which make contact with the eye. This idea was taken up by the Atomists, who talked of ' images ' composed of a transparent layer of atoms. So far as I remember no-one has used the Empedoclean theory as a means of defending the plausibility of a constant-flux theory in Heraclitus ; yet it would be an argument with at least superficial attractions. All the same, there are factors which suggest that any such theory is post-Heraclitean : it seems to depend upon the discovery of pores in the body by Alcmaeon of Croton ; it is associated with the new interest in sense-perception that followed Parmenides, who had also made the abandonment of common sense less repugnant ; and it was certainly not used in Heraclitus's own account of perception, such as it was—a use which might be expected if a theory of effluences, of a kind, lay ready to hand. As opposed to this type of interpretation Popper is right to insist that imperceptible changes, some of which seem to have been

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noted by Heraclitus, would be envisaged as similar in kind to
perceptible ones : iron is diminished by rust, the child grows up
by assimilating food, and so on.   I would suggest, however, that
the conclusion Heraclitus drew was not that ' all things are a
process ', but that ' in spite of the many examples of change and
instability in it, the world of our experience is ordered, determin-
ate, and unified '.   There is no need to insist that a small altera-
tion of emphasis here makes a great difference.   That Plato
altered Heraclitus's emphasis is shown even by comparing his
version of Heraclitus's river-statement, ' Heraclitus somewhere
says that all things are in process and nothing stays still, and
likening existing things to the stream of a river he says that you
would not step twice into the same river ', with what seems to
be a *verbatim* quotation of Heraclitus on the same subject (fr. 12) :
' Upon those that step into the same river different and different
waters flow '.   The fragments about the Logos and the nature
of fire show that the stability or measure which persisted through
change was as important for Heraclitus as the change itself, or
more so.   The ' sameness ' of the river is stressed in Heraclitus's
river-statement, it may be noted, but in Plato's version not at all ;
for the ' same ' river is implied in Plato's paraphrase to be an
impossibility.

Heraclitus accepted change in all its manifest presence and
inevitability, but claimed that the unity of the world-order was
not thereby prejudiced : it was preserved through the Logos
which operates in all natural changes and ensures their ultimate
equilibrium.   Popper is indeed isolated when he asserts that such
an interpretation of Heraclitus is ' absurd ' (p. 16).   ' If this is
Heraclitus's philosophy,' he writes, ' then I see no reason to take
any interest in it.'   This statement, and others like it, give the
clue to Popper's own approach to Heraclitus and to the ancient
philosophers in general : it is an essentially unhistorical approach,
in which more interest is shown in what an ancient thinker
evokes, what he potentially might have been or thought, than
in what he actually was or thought.   This is a familiar and
natural attitude, the ultimate ancestor of which was Aristotle.
It can in certain circumstances be fruitful, but is in itself anti-
historical.   Popper envisages the history of philosophy as the
gradual production of a set of basic ideas, each idea being
associated particularly with a single known thinker.   It is assumed
that all the known thinkers of the past must have had important,
well-defined ideas which can be reconstructed without difficulty.
Thus, in defending his interpretation of Heraclitus's philosophy,
Popper writes on page 17 that it ' seems to me a philosophy that

has real meaning and real depth.   It is a philosophy worthy of a great philosopher. *Who, if not Heraclitus, was the great thinker who first realized that men are flames and that things are processes ?* ' (my italics).   Again (*ibid.*) : 'Who, I ask, was this unknown philosopher—perhaps the greatest and certainly the boldest thinker among the Pre-Socratics ? Who was he, if not Heraclitus?' Here one remembers the curious claim made a few pages earlier : ' As to the Pre-Socratics, I assert that there is the most perfect possible continuity of thought between their theories and the later developments in physics.' That kind of continuity is assumed to exist ; someone must first have said that things are processes ; therefore that someone must have been Heraclitus.   Popper, the enemy of historicism, applies a kind of historicism in reverse : instead of using the past to predict the future he uses the present, or his idea of what constitutes philosophy, to interpret the past.   More startling still, he applies the criterion of possible *truth* as the test of the historicity of a theory.   On page 16 he finds that ' the suggestion that we should test the historicity of Heraclitus' ideas . . . by standards of " common sense " is a little surprising.'   Shall we not find his own ' test ' much more surprising—' But the decisive point is, of course, that this inspired philosophy [*i.e.* that man is a flame, etc.] is *true*, for all we know ' (p. 17) ?

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IV.—ON HAVING THE SAME VISUAL EXPERIENCES

By Norwood Russell Hanson

A. " When you see a stoplight and say ' Red ', it can never be
known whether you are having the same visual experience
which I have when, simultaneously, I see the same stoplight
and also say ' Red '."

B. " Can't it? Why not? Surely it is possible for us both to
submit to various optical and ophthalmological tests ; this
would decide the matter. Our verbal responses can be
ignored ; but by pairing and discriminating colours and
shapes it can certainly be determined whether or not we
we both see red or see the shapes in the same way. What
would a question about seeing which could not be settled in
this way be a question about? "

A. " No, this misses the point. We both may perform identically
on these pairing and discriminating tests ; there may not be
one case in which our verbal or other behaviour differs when
confronted with a stimulus like a stoplight. We may indeed
both be supposed to see a colour, or a shape. Yet we can
never be sure that just because the behaviour is identical
the ' internal ' colour perception is the same."

B. " You mean then, that nothing whatever could decide the
matter? But if this is so, then your worry is not a genuine
empirical worry at all. It can only be a disguised piece of
linguistic legislation, at best—or a conceptual muddle at
worst. A worry which cannot possibly be resolved is not
the kind of worry I propose to let myself have. If I have no
idea what would solve the puzzle, I cannot persuade myself
that I really know what the puzzle *is*."

There, too often, the matter is left, B feeling that A is profoundly
unclear about what he is asking for, and A reckoning that B's
refusal to have his difficulty indicates only a lack of depth and a
narrowness of technique. A's position is quite shocking, despite
the fact that many discussions (both inside and outside philosophy)
often come perilously close to it.[1] Because if you and I can
never know whether we are having the same experience in those

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[1] *E.g.* " . . . How do you know you see the same colour I do? . . .
Since 1660, when Isaac Newton discovered the properties of the visible
spectrum, we have slowly been learning the answer . . ." by Edwin
H. Land, " Experiments in Color Vision ", *Scientific American*, May 1959,
vol. 200, no. 5, p. 84.

situations where we both confront, *e.g.* a stoplight, and respond by saying " Red," then we can certainly never know whether we are having the same experience when we are looking at triangles, or chairs, or tables, or other people, or any of the other philosophical furniture of the external world. To have the doubt which A expresses just is to entertain the most radical kind of solipsism, although many seem to have had the former without explicitly entertaining the latter. It is hardly satisfactory to point out here, as some recent philosophers, like B above, seem to have thought it sufficient to do, that the question is not a soluble one. *This* is precisely what A is claiming. Discussions often conclude therefore in agreeing that the difficulty is insoluble and then proceed to construct theories as to how it is that A and B ever manage to agree upon so much in the world, despite their disagreements about " basic " visual experience. Here words like " convention ", " agreement ", " stipulation ", and " ostensive ", are exercised rather heavily. We can, apparently, never really know that we have the same " inner " visual experiences. But we can, by various sorts of arbitrary agreements and conventional decisions, proceed to act as if we do have the same experiences. The value of the agreements and decisions is assessed pragmatically. If we can all succeed in managing our affairs in the world by agreeing that X and deciding that Y, then in so far do we rely on X and Y.

Quite often of course, A is *not* making an empirical claim. His way of expressing his worry is frequently just a way of announcing how he proposes to use words like " experience ", or " colour ", or " behaviour ", etc. But certainly there are some cases in which A would feel himself to be making an empirical claim. He might think that he was in some way delineating more rigorously than is usually done what we are actually entitled to claim is " going on " when you and I say " Red " on confronting a stoplight. One feature of that experiential situation, says A, is that there is a limit to the amount of comparison possible between what you and I undergo.

In this case however, we can shake A from his claim by some hypothetical description of a test which would enable us to say of α and β, or of you and myself, that we are having exactly the same experience. Or, in a different jargon, it ought to be possible to imagine a test which would settle whether or not we are having the same visual sense data.

When discussing sense data it is essential that two different employments be distinguished. Theorists like Broad and Price have regularly spoken of " sense datum experiences ". This

must at least refer to *something which happens* in percipients
The claim to have had a sense datum experience in this sense
is thus an empirical claim. How to verify or falsify the claim
may raise other difficulties, many of which are conceptual in
nature. Nonetheless the locus of sense data here is inside ex-
perience. Distinct from this is the more purely logical use of
references to sense data, as " the limit of a series of ever-
diminishing empirical claims ". In this role the sense datum is
nothing that ever *happens*. It is rather the logical residuum of
a certain analysis of perceptual experience. Epistemological
discussions suffer when the sense datum theorist slides from the
first employment of this technical term to the second without
warning. Thus the datum seems to be indisputably something
which all percipients experience (if they experience at all) until
" the opposition " begins suggesting empirical tests which might
check the theorist's thesis. Then sense data are marvellously
transformed into " logical destructions out of ordinary ex-
perience ". It is one of the purposes of this paper to trace the
tracks of the sense datum theorist's claim as he slides off the
empirical highway onto the logical verge.

If such a test can be imagined, then it will be obvious in any
particular case whether or not the worry being broadcast is just a
covert means of setting out definitions, or does really constitute
a perplexity concerning the facts.

Imagine this experiment : α and β are sitting side by side
facing an illuminated wall. Mounted on the wall is a square of
graph paper, whose grid marks are in fine, but definite, black
lines. Drawn on this graph paper is a bright red triangle, to
which we shall refer as △.

Do α and β have the same visual experience ; are they having
the same visual sense data? A said we can never know the
answer. But surely we can know. For let us give both α and β
a piece of graph paper identical to the one hanging on the wall.
Provide them both with a bright red pencil of exactly the hue of
△. By hypothesis, we suppose that both α and β are master
draughtsmen. They are so skilful in hand and eye that they can
and do reproduce on paper exactly what they see before them.
α and β are now asked to draw on their allotted graph papers
precisely what is drawn on the illuminated piece. We can eli-
minate by a relay of bi-prism lenses any perspectival differences
due to the fact that the eyes of α and β cannot have identical
spatial coordinates at the same time. After they have finished
sketching, we superimpose α's drawing on β's drawing and
hold them up to the light. If there is any difference whatever

between the two drawings, then this cannot, *ex hypothesi*, be the result of inaccurate drawing. It must indicate that α and β had not had the same visual experience, had not seen $\triangle$ in the same way. We can easily make a decision in this case: if the drawings are congruent, then α and β saw the same thing, had the same visual experience, entertained the same visual sense data. If there is any detectable difference whatever between the two drawings, then α and β did not have the same experience.

There can be no difference between what α draws and α's visual sense data—at least, not on any orthodox account of visual sense data (*e.g.* those of Broad and Price). Similarly with β's drawing and what β experiences. For what could such a difference consist in? The entire content of the visual sense data is set out here in the drawings which α and β produce. *The Mind and Its Place in Nature*, and *Perception* suggest nothing geometrically present in the former which is absent in the latter. Nor does the *Critique of Pure Reason* for that matter. Because whatever α and β may be supposed to add to the raw data before their " private images " become drawable, they either add the same ingredients as we in the third person must add, or they add different ingredients. This will be decidable when we compare $\triangle$ with α's and β's drawings of it, or when we compare the latter with each other. Colours, shapes, configurations of lines, in the drawing these can be precisely what they are in the sense experience. Indeed, there seems to be a sense in which we can now say that the drawings of α and β *are* their sense experiences. Because since there is nothing discernible in the one which is lacking in the other, the two must be identical in every respect which can matter for the understanding of what visual sense data are. To have confronted the one just is to have seen everything which composes the other. If there were a difference, this would either go against the hypothesis that α and β are master draughtsmen, or go against the thesis that there is nothing in a visual sense datum other than lines, shapes, colours and their several configurations.

There are no odours, or pains, or pangs in visual sense data—at least not as the latter are classically represented. Odours, pains, and pangs are certainly not drawable or paintable. It is assumed here (not implausibly, I hope) that every constituent of a visual sense datum is drawable or paintable, even its organization. Hence, everything contained in the visual sense data of α and β is drawable or paintable. By the master draughtsman hypothesis then, what α and β draw just *are* their visual sense experiences.

One effect of this *gedankenexperiment* is to make everything

that matters about visual sense experience perfectly public
(as I suspect it always has been anyhow). This is analogous in a
very rough way to Galileo's transformation of the previously
private experiences of heat and cold and the passage of time,
into operations amenable to public assessment ; the invention of
the thermometer and the first attempts at constructing a pen-
dulum clock. So too here, we can now decide in principle the
previously unanswerable question of whether or not two observers
are having the same visual sense experience or different ones.

Should A object, saying that there could be no such experiment
in that the master-draughtsman hypothesis is unfulfillable, the
logical point is nonetheless established. Because though as a
matter of empirical fact there are no expert draughtsmen, it is
possible that there could be ; the supposition is not self-contra-
dictory.

Of course A may claim not that the hypothesis of the master
draughtsman is empirically unfulfillable, but that it totally begs
the question. He may argue that the whole complexity which
he first expressed is buried right inside this assumption. He
could develop his argument in the following way : α and β are
both observing △ on grid paper. So of course it is logically
possible that their drawings should be congruent drawings of △
on grid paper. But this proves nothing. The heart of the matter
is untouched, and the above argument is a *Petitio Principii*.
Because suppose that when α is confronted with △, he verbally
identifies this as a red triangle and indeed draws on his grid
paper a red triangle ; suppose however, that the actual " inner "
experience which he has is of a figure which, if we could but
inspect it, we should identify as a green circle. For α, the external
red triangle is completely " coordinated " with his internal green
circle. So naturally, when he seeks to draw what he is internally
aware of, he will have to draw on paper what we see as △.
How could what he draws be a drawing of that figure on the wall
unless the two were more or less congruent? But by A's new sup-
position an inner perception of what others would call a " green
circle " can, with α, only be drawn by him as what we see as a red
triangle. α reports, and draws, a red triangle ; but he *has* a green
circle " internally coordinated " with it. A says that *we* can never
know of anyone else whether or not his inner visual life is co-
ordinated with external objects as ours is, or as α's is. Indeed α
cannot even know which is the case—of himself—nor can we
know which is the case with ourselves. All this still leaves the
middle term (*i.e.* α's internal visual experience of what we should
call a green circle) unexamined and undiscussed. And this is

simply to return to the difficulty which A says he felt in the first place. The same criticism has been made of Mr. Patrick Trevor-Roper's thesis concerning the effect upon the work of an artist of the state of his eyesight. In a letter to the *Manchester Guardian*, Mr. J. Boumphrey remarks *". . . presumably Mr. Trevor-Roper did not overlook the fact that in painting the shapes which he saw with astigmatic eyes El Greco would reverse the optical process and the images on the canvas would theoretically end up the same as the originals!"*

It now begins to appear that the perplexity is really irresolvable. Still at this stage A might claim with some plausibility that this in itself does not make the perplexity a non-empirical one. The very fact that we tried to suggest an empirical test shows that we were understanding A's perplexity in the way in which he claims to have been proposing it. What A now points out is that our recommended test fails completely. The reason it fails is because of a further empirical supposition which A makes ; between an observed object △ and an observer's behaviour with respect to △ (even his perfect drawings of △) there could be, logically, an entire alphabet of symbols (obscurely related, or even unrelated) with which the observer unerringly co-ordinates the same external objects and the same behaviour (drawings) on all occasions. Of this supposition, A might reasonably urge that it is not in itself self-contradictory, nor is its negation self-contradictory. So it is an empirical hypothesis. Yet it seems, with A, to lead to a perplexity which is empirically irresolvable.

There is still one further suggestion which we can make however, which may meet A's fully developed argument. And the suggestion is indisputably empirical in nature, that is, not self-contradictory, nor possessed of a self-contradictory negation.

A's dissatisfaction with the hypothetical empirical test described above consisted in this : α and β succeeded in getting themselves from an observation of △ to the production of the drawing of △ on the paper presented to them, only through the intercession of an inner visual experience (an " internal apprehension " of their own visual sense data). On any orthodox account of sense data this " interceding variable " is not publicly inspectable ; which need not by itself mean that it is not inspectable at all or does not really consist in an empirical operation at all. So, apparently, A will be assuaged by nothing less than an experiment which will allow the public inspection of one's private sense data. In other words, it must be possible for a third person to observe directly, not just what is on the wall and what the

subject of the experiment draws, but what is actually " in the subject's head ".

But this requires no more than a refinement of *gedankenexperiment*-technique. If by hypothesis one can allow that α and β are both master draughtsmen, then also by hypothesis one can now imagine at hand all the laboratory equipment necessary for making the internal sense experiences of α and β publicly observable. The proposed experiment will now do something like this : α and β will sit facing △ on the wall. But instead of the drawing performance required in the earlier example, we now suppose a complicated cluster of electrodes and optical and electronic equipment, whose purpose is to make it possible to project α's and β's " private " visual experiences of △ out from their centres of visual awareness, back through the optic nerve, tunica retina, and through the anterior part of the subject's eyes—back on to the wall itself. This hypothetical equipment then, will simply turn α and β into animated projectors. Whatever it is they " have " as private sense images, these are flashed back on the wall. By a further complication, we make it possible for the subjects to see only the original red triangle. The image projected through them back on to the wall can only be viewed by a third person wearing special spectacles.

In this case then, it ought to be easy to decide whether α and β are having the same visual experience, the same sense data. If the figures projected out from their eyes are absolutely congruent with each other (it does not matter whether or not they reproduce the △ on the wall) then α and β had exactly the same visual experience, the same private visual sense data. If there is any difference between the two projected figures, then we simply decide the opposite way. Now no one can say what the exact details of the experiment imagined above would be like. But this does not matter ; the suggestion is an indisputably empirical one. And if its description makes sense, in general, then the fact that we cannot perform this experiment tomorrow indicates only an engineering deficiency, not a logical one. The limitation in principle supposed originally by A would now seem to have disappeared.

This is not absolutely precise. The question is whether, at any point along their optico-neurological relays, α and β are getting exactly the same signal. This is not finally answered by the above hypothesis. However the original stimulus is transformed while coursing along the intra-cranial reticula of α and β, our hypothesis above suggests only that these changes could (as a matter of physical principle) be run through " in reverse ".

This would but reconvert the signal as it obtains at any point in our subject's reticula back into what it was as the original stimulus. In fact, our imaginary apparatus, by working in this way, could not even disclose the properties of an intra-cranial signal, since these very identifying traits would have been re-transformed into those of the original extra-optical stimulus. Our arrangement above would only have the subjects shooting the original stimulus back out at the wall whence it came,—like a couple of slot-machines rejecting bad pennies. No. A more refined hypothesis would consist in interrupting at a point p in the neural relay, and then conveying the signal-as-discovered-at-p directly to public observation. Rather than shooting the signal back out through the eyes of α and β, we might convey it out *e.g.* through the subject's temples into instruments capable of rendering the signal thus detected available to public observation. This would make it possible (in principle) always to decide whether such a signal as picked up at p in α and at the same location in β, was the same for the two subjects, or different. The point is that, although this description is rather more complex than that of the *gedankenexperiment* described above, it remains indisputably possible from a contingent point of view. The question " Do α and β have the same signal at p ? " remains in principle decidable.

Suppose that the perplexity has not disappeared, however. The *gedankenexperiment* projected their sense data either back through the visual reticula of α and β, or else directly out of the subject's crania. This assumes, as A seemed at first willing to assume, that α's and β's private experiences were somehow to be construed as the final stage in a series of physico-chemico-neurological events, a view often encountered in orthodox sense datum theory. Indeed the alternative to this is either a purely logical theory in which sense data cannot ever be said to *happen*, or a very obscure empirical theory which must encompass a crude psycho-physical parallelism ; the latter could not explain, or serve as an analysis of, any epistemological perplexity simply because it is not really intelligible at all. If then it is meant to be understood as empirically true that the physical events occur sequentially, ultimately generating the visual sense datum, then it follows that it is empirically possible to consider the sequence in reverse. Thus light reflected from $\triangle$ can etch a photographic plate, which can then in its turn itself have light projected through it from behind to throw $\triangle$ back on to the wall.

It is, moreover, conceivable that a tiny mirror could be surgically introduced into the back of the eye which would reflect out what

had entered through the front. To go further along the assembly-
line, we could imagine the introduction of an intricate electronic
receptor at the terminus of the optic nerve which would re-route
all the afferent impulses back whence they came, and with a
suitable electrophysical conversion at the retina shoot out
through the iris just exactly what had previously come in. An
even more complicated mechanism would be required at the
visual cortices, and so on as far as the sense datum theorist
wishes to go.

Similarly, some fantastically intricate but not logically in-
conceivable device could project the final events in these series
as they actually occur in α and β back out along the perceptual
assembly-line whence they arose, and throw the resultant image
back on to the wall. If the claim to have a visual sense datum is
meant to be an empirical claim, and if it is a claim in any way
or at any time connected with having open eyes, and visual stimuli
—if in short there is any sense in speaking of a " visual sense
datum *experience* "—then the possibility of this suggested
sequence-reversal follows necessarily.

A could argue here however, that one cannot simply identify
the ultimate " inner " visual experience with the last event in any
physico-chemico-neurological series of events. On other grounds,
of course, this is in general a perfectly correct position to adopt.
The " last thing to happen " in such a series is the detection, or
observation, of " the first thing to happen ", *e.g.* the introduction
of an object into the observer's field of vision. But this final
detection is not itself detectable, anymore than observing is
observable or seeing is seeable. Neither does ' checkmate '
simply name the last move in a particular chess game. Had
this position been adopted initially as A should have done, it
would have made his worry even more difficult to express, and
even more difficult to have. But beginning as A did, this new
announcement that he now proposes to disqualify each newly-
refined experimental suggestion as always falling short of some
ineffable experience which cannot in principle be got at, is some-
what startling. For this shows either that A's initial worry was
not after all an empirical one, despite appearances, or that A
has slid from that level of discourse in which sense datum ex-
periences can serve as the subject matter of genuine empirical
talk, to a quite different level where the sense datum is merely an
analytic invention introduced for the purpose of discovering what
we are right about even when our perceptual claims are totally
wrong. It also shows that A's original way of expressing his
worry may have been misleading, or false, or both. Such

gedankenexperiments as those suggested (and their subtlety can be increased just as readily as A's talk of sense datum experience can be) would certainly decide whether or not α and β were having the same visual experience (sense data) in any context where in the question arose as a genuine empirical doubt, and not as part of a rigorously inflexible epistemological theory, or as a systematically elusive metaphysical uneasiness. If every attempt to present an empirical solution to A's ostensibly empirical difficulty is met by his making the subject of discourse less and less vulnerable to testing, we should soon gather that his perplexity was not really the sort of perplexity we had thought it was, and perhaps not even the perplexity A had thought it was. A's doubts are now metaphysical in the worst sense. Though he poses as needing help with the problem, he will not *allow* us to help with any suggestions of experiments. *À la bonne heure.* But now that respect in which α and β cannot be known to have had the same experience has now been reduced by A himself to the logical vanishing point. It is no longer possible to tell *what* A's trouble is.

One thing which follows from all this is that the reason we can never in fact say of two percipients confronting the same visual stimulus that their " internal " visual experiences are the same, is not that though the question is empirical we are logically forbidden from answering it. The reason is either (1) that in order to get into a position where we could reasonably decide we would require equipment much in advance of anything now envisaged (assuming the question to be empirical), or (2) that there is something fundamentally wrong with the whole drift of the question, *i.e.* that assuming the question to be an empirical one, " having a visual experience " is not related to the chain of physico-chemico-neurological events which precede it as the developed photographic negative is related to the chain of events of which preceded it. It may be different in kind. In short, the making of such a decision with respect to A's initial question is not impossible in principle, it is only very difficult as a matter of practice. A's attempt to elude the latter conclusion in favour of the former seems to result either in some arbitrary stipulations concerning the definitions of " colour ", " experience ", " test ", etc., or else in the obscurest of metaphysical doubts.

The conclusion then is this : that it is in principle possible to decide of two subjects whether or not they are having the same visual experience, or the same private sense data *if* the claim that they are or are not having the same experience or sense data at a particular time is an empirical claim in the sense in which A proposed it. But though these two expressions, *viz.* " same

visual experience ", and " private sense data ", have been used (as in the tradition of the sense datum theory) as virtually synonomous, it has really been with the purpose of distinguishing them that all the foregoing has been undertaken. Because suppose that instead of △, our experiment involved one of those multiple-aspect figures familiar in Gestalt psychology (*e.g.* the duck-rabbit, the wife—mother-in-law, the cup-faces, the reversing-staircases). In this case it ought to be possible to say of α and β that, despite their having exactly the same sense datum experiences, in the sense that the figures projected through their eyes on to the wall are perfectly congruent, they may nonetheless have different visual experiences. If α sees the duck and β sees the rabbit, nothing in orthodox sense datum theory will explain this difference so long as it can be argued that their sense data are identical, geometrically indistinguishable. If I see the wife and you see the mother-in-law, our sense data need not differ when our visual experiences do. So long as " α and β have the same/different visual experiences " and " α and β have the same/different visual sense data " both remain empirical claims and are not converted by the theorist into an equivalence when the argument begins to go against him, then *it is meaningful to speak of situations in which two observers having indistinguishable visual sense data nonetheless have disparate visual experiences.* The sense datum theory then fails completely as an analysis of visual experience.

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V.—GOOD REASONS IN ETHICS: A REVISED CONCEPTION OF NATURAL LAW

By A. Campbell Garnett

THE argument of this paper is designed to show that the major difficulties concerning the basic principles of ethics are due to certain linguistic and psychological confusions. When these are removed the resultant ethical theory might be described as a revised doctrine of natural law in accordance with which our psychological knowledge enables us to frame the basic principles of the moral life. These principles, as we shall see, determine what sort of reasons should be recognized (and commonly are recognized) as " good reasons " for an ethical statement.

We shall begin our analysis with a discussion of the use of the word " ought ". This word, in all its uses, asserts that something is required. In what Kant called its hypothetical use it states that something is required for the satisfaction of certain desires or interests. This includes the prudential sense, where it is used to state that something is required for the satisfaction of some person's most persistent and strongest desires or interests. But " ought " is also used to state requirements which are independent of the desires and interests of the person on whom the requirement is placed. Thus the logical " ought ", " From these premises one ought to conclude that All S is P ". Or the conventional " ought ", " A white tie ought to be worn with tails ". Or the moral " ought ", " A man ought to be prepared to risk his life to defend his country ". In the last three instances the requirements stated in the " ought " sentences are requirements for the maintenance of certain standards, and it is meant that the requirement holds quite independently of whether or not anyone is interested in the maintenance of the standard.

Traditional and common uses of the moral " ought " *assume* that certain ideally possible conditions constituting the moral standard can be known, and they *intend* to refer to this standard. The philosopher who questions this assumption of a knowable standard may legitimately object to the traditional moralist's assertions of its requirements, but he should not distort the intended meaning of words in ordinary language as the traditional moralist uses them. The question as to whether good reasons can be given for what is commonly recognized as an ethical statement is therefore a question concerning the nature of this standard and how it is framed and known.

We can approach this question by examining the usage of

another ethical term, " good ". For in traditional ethical usage,
what one *ought* to do is what one is *required* to do in order to be a
good man. In examining what is meant by use of this much dis-
cussed term we may refer first to the *Oxford Dictionary* which
tells us that it is " the most general adjective of commendation
in English ". Following this lead we may ask what, in general,
one must say about a thing in order to commend it. Certain
theories may, I think, be easily shown to be inadequate by
pointing out that, to commend a thing, it is not sufficient merely
to express one's own favourable feelings toward it, nor to say
that one has such favourable feelings, nor to demand that the
other person shall favour or approve it. To commend a thing
to someone we must either give reasons why he should favour or
approve it or, at least, say that there are such reasons. Now the
adjective " good " does not explicitly give any reasons for a
favourable attitude to a thing. What it does is simply to say that,
on the whole, there are such reasons ; and to say this is to say
that the thing has such properties that if one knows them (knows
what it is in itself, and its consequences for oneself and for those
in whom one is interested) then this knowledge would induce a
favourable attitude.

Sidgwick was expressing this interpretation of " good " when
he said that by " good " we mean " reasonably desired ", or more
fully, " what would be desired . . . supposing the desirer to possess
a perfect forecast, emotional as well as intellectual, of the state
of attainment or fruition ".[1] This same interpretation of " good "
is involved in Dewey's theory of evaluation, which analyses the
value judgment as formed by the exercise of intelligence in
inquiry into the consequences of a thing or action for the fulfilment
of the widest possible range of interests. Sidgwick, however, is
quite clear here on a point on which Dewey is confusing, if not
confused, namely, that to say that something is " reasonably
desired " in this sense does not directly imply that it *ought* to be
desired. It merely says that if it were understood in all respects
relevant to the formation of desire one *would* desire it.

To avoid misunderstanding arising from narrow interpreta-
tion of " desire ", as " desire to have ", we shall use the terms
" favour " and " approve " instead of desire. " X is good ",
then, means " X is reasonably favoured or approved ", or
" Intelligent understanding leads one to favour or approve X ",
or " X is a reasonable object of a favourable attitude ". It
should be noted that this is an indicative proposition asserting
that X has properties which are apt to have a certain sort of

[1] *Methods of Ethics*, p. 111.

effect on those who know them. The properties it speaks of, however, are purely natural properties. " Good ", thus understood, does not imply " ought to be ".

We should next note three distinct uses of the term " good " as an adjective of commendation. (1) The instrumental sense. Here " X is good " means " Considered simply as an instrument for attaining such and such an end, X ·is an instrument that intelligent understanding would lead one to favour ". In this sense one may say of a dark night " This would be a good night for a murder ". (2) The sense of intrinsic good. Here " X is good " means " Considered as what it is in itself, or as an immediate object of experience apart from its further consequences, X is an object intelligent understanding of which leads one to favour ". (3) The third sense is that which W. D. Ross [1] calls " attributive " or " adjunctive ", as distinct from the other two senses as " predicative ". This is the sense in which " good " means neither " good as instrument " nor " good in itself " but simply " good of its kind ". In this sense we consider the function of a thing that has a function, or the development of a thing that is capable of development, and such a thing is pronounced good in this sense according to the degree to which it is believed to fulfil the function [2] or realize the potentialities of development of its kind. To say that something is good in this sense registers no approval of the intrinsic qualities of the thing concerned, nor of the end the function serves. We can speak of a good scorpion or a good poison in the sense of " good of its kind ". Use of the term " good " in this connection, however, still affirms that there is a sense in which intelligent understanding of the thing tends to induce a favourable attitude. It rests on the fact that, when we merely consider a thing as a specimen of its species, the specimen that fulfils the function of the species well, or in which the potentialities of the species are most fully developed, is approved by our intelligence *as a specimen of the species*, rather than one in which this is not the case.

Let us now go back to the beginning of our discussion of the term " good ". We said there that, in traditional ethical usage, " what one *ought* to do is what one is *required* to do in order to be a *good man* ". This is a tautology. But in which of the three senses is " good " used here ? Certainly not in the *instrumental*

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[1] *Foundations of Ethics* (Oxford : The Clarendon Press, 1939), pp. 255-256.

[2] There is some overlapping between the instrumental sense and the attributive sense when the latter refers to function ; this occurs when the distinctive *function* of a thing is also its distinctive *use*.

23

sense, without any reference to intrinsic goods. It is, I think, most commonly assumed that, in such a statement, what is meant is a man of *intrinsically* good character. With the understanding of " good " developed above this would mean a character which, considered as what it is in itself, apart from its consequences, is an object which intelligent understanding leads one to approve or favour. This presents us with a definition of the moral " ought " in naturalistic terms ; and it is one we cannot *completely* reject without denying the rational character of the moral life. But the definition is not precise enough to be of practical value ; and it has an ambiguity which makes it seriously misleading. It gives us no guide as to what sort of character intelligence tends to favour or approve ; and it leaves wide open the egoistic suggestion that each intelligence will favour the sort of character that serves the interests of those in its own situation.

We turn, then, to the third sense of " good ", " good of its kind ", which Ross, while mentioning, dismisses as of no importance for ethics.[1] The statement defining what we ought to do then becomes, " What we ought to do is what one is *required* to do in order to be a good specimen of the human kind ". Or, using our interpretation of " good ", " What one *ought* to do is what one is *required* to do in order to be the sort of person that can be reasonably approved or favoured, considered simply as a specimen of the human kind ". This definition also is naturalistic; and it is one we cannot completely reject without denying the rational character of the moral life. Furthermore, it has a limitation and precision not present in the one using the notion of intrinsic good ; and this limitation and precision enable it to serve as an important guide as to the nature of the moral requirement. The sort of character, it says, the requirements of which we ought to fulfil, is that character which can be reasonably approved or favoured, *considered simply as a specimen of the human kind*—and this limitation placed on rational consideration means that *the specimen viewed most favourably is the one in which the potentialities of its kind are most fully developed.*

We must next ask, however, whether the judgment of moral goodness is concerned with *all* the potentialities of the human kind ? To this question the answer is, No : ethics is only concerned with voluntary conduct. A morally good man is a man whose voluntary control of behaviour is good. Moral judgment is not concerned with involuntary aspects of life. To give our definition proper precision, therefore, it must be reframed to refer

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[1] *Op. cit.* p. 256.

specifically to voluntary behaviour, " What one ought to do = what one is required to do in order to be the sort of person whose voluntary behaviour can be reasonably favoured or approved, considered simply as a specimen of its kind ".[1] With the basis of approval thus narrowed we then see that what is morally required is to be the sort of person in whom voluntary control of behaviour realizes its full potentialities.

A critic of this analysis may object to it that man's potentialities for voluntary control of behaviour are enormously varied and conflicting, that they include deliberate murder, theft and other forms of iniquity, and that the criterion of the fullest possible realization of potentialities for voluntary control of behaviour provides no criterion for choice among the conflicting possibilities of voluntary conduct. This criticism, however, is based upon a misunderstanding of the nature of voluntary control of behaviour, and a failure to recognize the distinction of the lower and limited, as against the higher and fuller, levels upon which it may operate.

For the purposes of ethics " voluntary behaviour " may be defined as " behaviour so far as it is determined by foresight of and choice among the values seen as realizable by alternative lines of conduct ". And " a value ", as used in this definition, may be defined, with R. B. Perry,[2] as " any object of any interest ". To be more precise : a " value object " is " any object of any interest ", and " realization of a value " is " fulfilment of any interest in any object ".

This foresight of, and choice among, values (objects of interest) operates on three distinct levels, and these levels must be recognized as levels of development of personality each of which incorporates and transcends the operations of the level earlier developed. Each level thus represents a distinctly fuller development of the potentialities of the personality for voluntary control of conduct. The moral requirement is therefore the requirement that, in the voluntary control of behaviour, we shall operate at the higher levels of voluntary control whenever the situation provides occasion for such operation, and that thus the lower and limited types of voluntary control shall be subordinated to the higher and fuller. For the understanding and criticism of moral judgment, therefore, it is of the first importance, that we should have a clear recognition of what these levels are. To this question of psychological analysis, then, we must turn.

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[1] *I.e.* as a specimen of *voluntary* behaviour, as defined below.

[2] R. B. Perry, *A General Theory of Value* (New York : Longman's Green & Co., 1926), p. 115.

Below the level of voluntary conduct behaviour is purely
impulsive, concerned only with the realization of immediately
anticipated satisfactions, and unaffected by " foresight of and
choice among values seen as realizable by alternative lines of
conduct ". The simplest and earliest development beyond this
stage is that at which the after-effects of past satisfactions and
dissatisfactions operate to produce anticipations of possible future
satisfactions and dissatisfactions as further consequences of the
present line of behaviour, and of other satisfactions and dis-
satisfactions as possible along other lines. Then choice must be
made among the alternatives, and this constitutes voluntary
control. This type of conduct can operate without any thought
of consequences to other selves. It develops and is in full opera-
tion long before there is clear recognition of the existence of other
selves, and thus before there is any capacity to be interested in
other people's satisfactions and dissatisfactions, but it continues
to operate after the development of this capacity and may
determine the direction of conduct in ways that are contrary to
the later developing social interests. When impulse is carefully
and intelligently controlled and redirected in this way by choice
of more distant satisfactions believed to constitute a realization
of greater values (*i.e.* a greater fulfilment of the self's interests in
objects) we say that the choice is *prudent*. And we say that a
man *ought* to be prudent. Prudence is a *virtue*. The justification
of this is that, in prudent conduct, as compared with impulsive
behaviour unaffected by foresight and choice, man functions at a
higher and fuller level of his potentialities. His conduct is
voluntary, since it is affected by foresight and choice of values,
and being voluntary it has some moral character. It is voluntary
conduct that is good of its kind in so far as it realizes the poten-
tialities for foresight of values and choice of the greatest values
presented as possibilities by the situation with which it is con-
cerned. One of the reasons, therefore, that may be given for a
statement that a certain action, or a certain rule of conduct, is
morally good, is to show that it is prudent.

If this were all that could be involved in an ethical situation
the problem of moral judgment would be relatively simple. That
it is not so simple, however, is shown by the fact that a certain
action, though prudent, may be judged morally wrong. A
prudent action, we say, is sometimes cowardly, mean, unjust,
or uncharitable ; and these are terms of moral disapproval.
We must turn again, then, to our analysis of the basis of moral
judgment to see why prudence is sometimes subject to con-
demnation. On examination we find that the occasions for this

are occasions when foresight and choice have not given full weight to values realizable in the lives of other people. And this failure is a failure to exercise man's full capacity for foresight and choice in the control of impulse. Since a *moral* requirement is something required in voluntary conduct for the realization of man's full potentialities in the determination of behaviour by foresight and choice among the values seen as realizable, and since it is possible for conduct to be determined by attention to values realizable in the lives of others as well as by attention to values realizable in one's own life, it follows that an action which is not determined by all possible attention to both types of value does not realize the full potential of voluntary conduct and so falls short of the moral requirement. Some of our names for various ways in which people fail to realize this full potentiality for determination of conduct by attention to values in the lives of others are— cowardice, meanness, injustice and uncharitableness.

At this point in our discussion a psychological question arises. Is it the case, some will ask, that voluntary conduct is ever determined by attention to values realizable in the lives of others except when these are seen as instrumental to some satisfaction in one's own life ? Psychological egoism denies this possibility, and psychological egoism was almost unchallenged in the history of Western Philosophy from the time of the Greeks until it was submitted to devasting criticism in the eighteenth century by Hutcheson and Butler. During those centuries Christian moralists preached that it is man's duty to love his neighbours as himself, but they agreed with the pagan philosophers that it was impossible to do so by rational volition, and they believed that it was only made possible by infusion of the grace of God. Even after Hutcheson and Butler, egoism in the form of psychological hedonism, died hard. It dominated philosophical liberalism until after the time of John Stuart Mill. It continued unquestioned in all those theological circles which followed either Thomas Aquinas or the Augustinian tradition in Protestantism. Only gradually have philosophers and psychologists in the twentieth century come to recognize that many people love many (or even most) of their neighbours disinterestedly even without the help of the grace that comes through Christian faith, that it is just as natural to love one's neighbours as to hate them—and fortunately much more common—and that reason is the servant of all desires, of the desire to promote one's neighbour's welfare as well as the desire to promote one's own. For the purposes of this paper I shall take it that this point—the possibility that the natural man may exercise disinterested good will—is now fairly generally

accepted. In any case the limitations of time forbid that I
should argue it further here. I mention the fact of the long
continued rejection of this possibility chiefly because it explains
why the rather simple solution of the ethical problem I am here
expounding has not long been recognized. I mention it also
because it illuminates the importance of the distinction between
two levels of disinterestedness I wish next to draw.

These two levels are those of loyalty to individuals and groups,
and completely disinterested good will. The first is common and
usually strong ; the latter is generally feebler though perhaps
not much less common. The former is limited in range and
mingled with self-regarding elements ; the latter is, by definition,
all-inclusive and purely disinterested. The former is generated
by spontaneous emotional reactions in face-to-face groups ; the
latter requires some abstract thinking about the nature of man.

Loyalty is the motive that generates and supports most of the
common rules that constitute the moral element in the *mores* of
a people. It includes an element of disinterested good will which
arises from the fact that human beings who frequently meet each
other and interact with each other inevitably become interested
in each other, and that this interest is predominantly constructive
and co-operative. If it were not so—if, for instance, rivalry
rather than constructive co-operation were the predominant
interest—they would be driven apart from each other by their
emotions in stead of being emotionally bound together in a group.
Even the self-regarding element in group loyalty tends to bind
the individual to the group and motivate a support of its *mores*,
for this self-regarding element includes, not only a prudent
recognition of the advantages of group membership, but also a
pride in belonging and an identification of the self with the group
through recognition of kinship and possession of common
characteristics distinct from those of other groups. Even the
mores themselves become features of kinship and marks of the
herd, and thus are cherished with pride, for the individual is so
conditioned in them in infancy that their typical judgments and
emotional reactions become a part of himself.

The moral rules of the community are largely shaped by what
the community has been accustomed to believe is in the interests
of the group ; adherence to them is believed to be essential to
the welfare of the group ; and group loyalty, with its mingling of
neighbourly good will and group pride, becomes a motive, often
more powerful than even a combination of natural impulse and
personal prudence, which impels the individual, in his foresight
and choice of values, to strive to realize that larger range of values

which includes the values of the group, even at the sacrifice of personal interests. Loyalty to the group, and to individuals to whom one has special commitments, is the commonest and strongest of those motives which enable a man to risk his life in defence of his family or his country and to stand up for justice to those with whom he has identified himself even when a stand for justice is not prudent. And conduct motivated by group loyalty is recognized as conduct on a higher moral level than that motivated by either blind impulse or enlightened personal prudence, for it is an expression of higher and fuller capacity for voluntary control of conduct. It is an expression of personality at a fuller stage of development, of the more complete, or more perfect, man. A prudent man is a man to some extent good of his kind (manifesting some development of the potentialities of the human) but the loyal man is a better man, a more *true* man, manifesting a still further development of the distinctive human capacity for voluntary control of conduct. The requirements of loyalty, both to explicit commitments such as promises, and the implicit commitments of group life, constitute the basis of all those special obligations which the Deontologists have emphasized as duties commonly recognized and upheld without reference to utilitarian considerations.

Loyalty is, however, not yet the full development of man's capacity for voluntary control of conduct. The highest stage is only reached with the development of the capacity for impartial or disinterested good will, unsupported by the self-regarding elements in group loyalty. This comes with abstract thinking about the nature of man, as man, with seeing the common humanity in all men, with an imaginative entering into the feelings of other persons, even of those outside the circle of the groups to which one is bound by natural loyalties. The nature of man and his potentialities is an object of interest to every person who reflects, and the interest in these potentialities tends to be constructive rather than destructive ; *i.e.* it is an interest in the fulfilment rather than the non-fulfilment of human potentialities, in growth of body and mind rather than their stultification. The destructive interest seems only to arise as a means to some other end, such as pursuit of prestige and power, or escape from frustration. It may be true that the impartial interest in realization of values in the lives of others is not very strong in any of us, but the reflective moralist sees it as a possibility. He sees it as a possible further extension of voluntary control of impulse—the control of impulse by foresight and choice aiming at the realization of a wider range of values. Logically, he sees it as the

farthest possible extension of this exercise of voluntary control of conduct, and thus as the perfecting of the process. He thus is led to declare that what is required for the moral perfection of man, for the fullest possible extension of *voluntary* control of conduct—control of conduct by concern for realization of a wider range of values—is action aiming impartially at the realization of all possible values in the lives of all men. This motive of impartial concern for human well being, the Christian *agape*, is then declared to be the supreme virtue, above group loyalty and above prudence; and the ultimate moral law is declared to be the principle of love to one's neighbours as to oneself—in the sense in which every person who can be affected by our actions is equally our neighbour.

An analysis of the moral injunctions which have received endorsement of a consensus of opinion in any society will, I think, show that they fall under one of the three heads : (1) the requirements of personal prudence, (2) the requirements of personal and group loyalty, (3) the requirements of impartial good will. It may be claimed for our analysis of the meaning of the terms " good " and " ought " in ethics, and for our psychological analysis of voluntary conduct, that these, together, show why this is so. It may be further claimed for our theory that it shows why, in the history of ethical reflection, these three requirements have come to be placed in ascending order of importance. We may sum up the requirements for completest possible fulfilment of man's potentialities for voluntary control of conduct—the *moral* requirements—as they follow from our analysis, in the following three principles. (1) Act as required by personal prudence, except when this would be contrary to the requirements of personal and group loyalty and impartial good will. (2) Act as required by personal and group loyalty, except when this would be contrary to the requirements of impartial good will. (3) Act always as required by impartial good will. If we want to give good reasons for any statement as to what is ethically right or wrong we must show that, in the circumstances to which it applies, it follows from one of these three principles and does not conflict with any of them.

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VI.—DOER AND DOING

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THE criticism that Libertarianism is not self-consistent has been putting in an annual, sometimes quarterly, appearance as an undisputed verity, and shows a propensity towards continuing to do so, despite the fact that powerful opposition[1] has recently been building up. Briefly it states that if the agent is not causally determined to do one rather than the rest of the courses of action between which he must choose he cannot be held responsible for doing the action of his choice rather than any of the rest. He would be acting by chance or accident, at random, capriciously, and so on down the slippery scale of nuance to the double-edged absurdity that causally undetermined action is activated by whim. The argument can of course be employed more or less circumspectly. Some content themselves with saying that causally undetermined actions are actions for which the agent is not responsible, while others with more bravura roundly condemn such action as irresponsible. We need take seriously the former alone.

The assumption upon which this argument is based, is that the concepts of chance, randomness or accident, on the one hand, and that of responsibility, on the other, are unambivalent. But it is quite easy to see that they are not. When a first offender pleads for a second chance he is not asking the judge to engage in a sort of lottery by disclaiming any responsibility for what he does in the future. He is declaring his intention to behave better in future given the chance. ' Chance ' here means ' opportunity '. Opportunity and responsibility are *not* contradictory concepts. One can see, then, that the Libertarian and anti-Libertarian adopt two opposing courses. The Libertarian equates lack of causal determination with chance in the sense of opportunity, from which it follows that lack of causal determination is consistent with responsibility. The anti-Libertarian on the other hand equates responsibility with causal determination from which it follows that chance in the sense of opportunity is inconsistent with lack of causal determination. The grounds then for saying that anti-Libertarianism is inconsistent with the notion of opportunity are just as strong as those for saying that Libertarianism is inconsistent with the notion of responsibility. But both these notions are equally indispensable to the concept of voluntariness. Just as the agent is responsible for actions he has voluntarily

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[1] *Cf.* Maurice Cranston, *Freedom*, pp. 169-170, and Philippa Foot ' Free Will as Involving Determinism', *Philosophical Review*, October 1957.

committed so he must have had the opportunity to perform
actions he has voluntarily omitted.

The only reason why the way out of this impasse may not be
obvious is that there are at least two ways. The anti-Libertarian
must affirm that chance is an ambivalent notion, in one inter-
pretation consistent, and in another inconsistent, with causal
determination. The Libertarian, on the other hand, can equally
well say the same sort of thing about being responsible for
something, *viz.* that in one interpretation it is equivalent to
being the cause of, and in another interpretation it does
not even involve being the cause of that thing. Both ways
have the justification that in some contexts ' chance ' and
' responsibility ' indicate compatible notions while in other con-
texts they do not.

To see their link with causal determination let us examine more
closely cases in which ' chance ' and ' responsibility ' are used
antithetically. Where we say of an action that it was random,
an accident, or done by chance, this certainly does seem to indicate
that the agent is not responsible for it. When we say all these
things and conclude that the agent was not responsible, we mean,
however, that the agent did not intend or design to do whatever
he did. Or rather when we say that the agent was responsible
for what he did, we mean that the action was not unintentional.
The link between intentionality and causal determination is by
no means so obvious as the link between intentionality and
responsibility. Hence one can reasonably suspect that the anti-
Libertarian equation between responsibility and causal de-
termination depends upon a confusion of the contexts in
which the word ' responsible ' appears: but it is only fair to admit
that exactly the same charge might be preferred against the
Libertarian equation of chance or opportunity with lack of
causal determination.

The whole issue in fact calls for a more rigorous examination
of the notions of agent and action, doer and doing: for these are
involved by the question ' Who or what is responsible for that? '
In particular we must ask ourselves whether these relations can
be identified with, or even whether they are a particular species
of, the relation between cause and effect. I shall argue that
they cannot for two reasons. (*a*) The relation between doer
and doing is a substance-event relation whereas that between
cause and effect is an event-event relation. (*b*) The relation
between doer and doing is a material temporal relation
whereas that between cause and effect is a formal timeless
relation.

I

I should make it clear at the outset that I am interpreting the relation between doer and doing in the widest possible way. Other things besides persons do things. I shall consider first the general relation and only later consider the question of what distinguishes voluntary agents and actions. My question can be otherwise understood as the question ' What is the function of verbs other than the verbs which indicate timeless formal relations? '

My first argument need not delay us very long. I shall give it an *ad hominem* basis. The sort of causal relation in terms of which Determinists or anti-Libertarians interpret voluntary behaviour is the event-event kind and not of the substance-event kind. They say that on the basis of what the agent has done in the past and of what has happened to or in him we can in principle predict what he will do in the future. Events in other words are used to predict events.

As a corollary to this first argument we should notice that the event-event relationship which provides the basis of prediction is usually conceived as symmetrical. It is conceived as some kind of one-one necessary connection in terms of which we can retrodict as well as predict. Any asymmetry in the cause-effect relationship is a temporal asymmetry which is not a property of the necessary connection between the two. Anybody who wishes to interpret the cause-effect relationship more liberally that I have done above is at liberty to do so. I am merely insisting here on the minimum requirements presupposed by the free-will controversy.

In contrast it should be obvious that in the doer-doing agent-action relation we have a distinction corresponding to the grammatical distinction between substantive and verb. Descriptions of events, it is true sometimes play a substantive role as in ' The war has caused a shortage in rubber supplies ' or ' The throbbing pain keeps me awake at night '. But as a matter of fact we do not regard these statements as on the same level as genuine doer-doing statements like ' The stone broke the window '. The relation they describe is really of the formal timeless kind I shall consider later.

Perhaps I should record that it is more fashionable to call doers ' continuants ' than ' substances '. But events often continue indefinitely. Some conceivably could continue infinitely. Doers on the other hand quite frequently discontinue or decease. Accordingly, I prefer to use ' substance ' shorn, indeed, of some of its metaphysical associations that many find distasteful. The distinguishing feature of a doer is its capacity to behave otherwise

than it does, and the word ' substance ' celebrates this fact more effectively than ' continuant '. The sense, or range of senses, in which the doer is capable of doing otherwise is, of course, the precise issue between Libertarians and their opponents. At the moment, however, I am not entering into this controversy merely by selecting this capacity as the essential feature of substance as such.

My second argument is that the cause-effect relation is formal and timeless rather than material and temporal. When one event causes another we do not think we should postulate a second-order event described by the word ' causes ' over and above the two first-order events. Fuel burning causes the boiling of water in certain circumstances, but ' burns ' and ' boils ' describe events, whereas ' causes ' does not. If we supposed it did, consistency would require us to postulate further third-order events connecting these second-order events in the same way as the latter connect burnings and boilings, etc. We are in fact committing ourselves to an indefinite regress.

Again, when we say that one particular event caused, causes, or will cause another event, we do not really credit the former with a history in the sense of a past, present, and future, consisting of its causing, then ceasing to cause one thing, but going on to cause something else. Only particular substances, not particular events, have a history of this kind in which they do one thing, cease to do it, and go on to do something else.

The fact that one can speak of the history of the Italian Renaissance—of its beginning, spreading, gathering momentum, etc.—may lead to some confusion here, for this might be regarded as the history of an event. But the history here is of a different kind from, say, the history of Italy. In the former case we are thinking of the development in a process the completion of which alone is properly describable as the Italian Renaissance. We are not thinking of something which has a past in which it did various things, and which possibly may have a present and future as well. Verbs expressing the development of events are of a different kind from verbs which describe events. They do not describe events but like the various forms and correlates of the verb ' to cause ' are of a second-order type, with, however, a function quite distinct to themselves. What this function is we shall see in a moment.

II

Further investigation will show more clearly how the differences between the doer-doing and cause-effect relations listed above are very much inter-connected. The main obstacle to a clearer

understanding of the distinction is that the doer-doing relation
has radically disparate instances. Some of these instances fit
quite comfortably into the cause-effect frame-work as well, and
this has led to confusion between the two frameworks. In
general the distinction is one between a relation which one event
may bear to another and a relation of the type which constitutes
events as events—for events consist of something doing something.

There are in fact two ways in which we can regard anything
which takes time. We can treat it either as a unit or as a unity.
These two ways, of course, are not mutually exclusive. When
we treat the event as a unit we treat it as externally related to
other events antecedent, concurrent, or subsequent. When, on
the other hand, we treat it as a unity we are attending to its
internal structure. Obviously we can attend to its internal and
external relations at the same time. Now when we treat it as a
unity there are two further ways in which we may regard it. We
may regard it as made up of smaller externally related units, or we
may regard it as what I shall call ' a process '. When we treat it
as a process we treat it as composed of stages of development—
and stages in the same process are not externally related to each
other. They include and overlap each other. Bound up with
the notion of stages and development there are, of course, the
further notions of potentiality and actuality. The earlier stages
are potentially the later stages and the later stages are the actuality
of the earlier stages.

This distinction can perhaps be elucidated by the following
somewhat crude diagram.

T^1	T^2	T^3	T^4
A	B	C	D
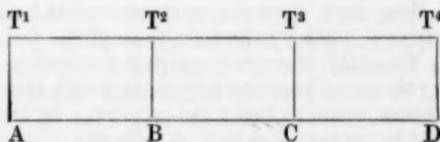
When we conceive what occurs between T^1 and T^4 (*e.g.* between
Monday and Thursday morning) as consisting of event-units, we
represent it as the sum of AB, BC and CD in temporal order or
otherwise. When, on the other hand, we represent it as a *process*,
we represent it as consisting of AB, AC, and AD in that order.
Each of the latter three events is represented as a separate stage
in the final stage, *i.e.* the complete process AD: alternatively,
each is regarded as a form, complete or incomplete, actual or
potential, of AD. I shall show that when we treat a temporal

unity as a process, we regard the earlier event-units as in one-many necessary connection with the later ones, where the many are or may be mutually exclusive.   Thus, given CD, the preceding events BC and AB must be given by necessity, since in accordance with the one-many pattern they are indispensable conditions of CD.   In the same way BC must presuppose AB.   Each later event, accordingly, sums up the earlier event.   One way of giving AD this sort of structure is simply to regard AB as the first of its components, BC as the second, and CD as the third.   By definition a third in a series presupposes, but is not presupposed by, a second;   and a second presupposes, but is not presupposed by, a first, since the first component could be the only one.   But AD might have the process-structure for other reasons as the following example shows.

Let us take the temporal whole consisting of a stone breaking a window.   This is represented as a process if it is considered first as the stone coming into contact with the window, and then as the stone breaking the window, since the parts are articulated as stages and not as mutually exclusive.   If, on the other hand, it is represented as consisting first of the stone coming into contact with the window and then of the window breaking, then it is represented as whole consisting of events, because the parts are mutually exclusive.   Observe here how the second event-unit, *i.e.* the *window* breaking, presupposes, but is not presupposed by, the earlier as soon as it is *described as* the stone breaking the window. The earlier event-unit, *i.e.* the stone coming into contact with the window, does not presuppose the occurrence of the second, since other causal conditions might conceivably intervene to prevent the latter.   Here, then, a one-many structure has been imposed upon the temporal unity by the definitions of the terms used to describe it.   We could, of course, change it to a one-one structure by describing the stone's coming into contact with the window as the stone's being about to break the window.   In this way the window would be broken by definition.   However, it may not be broken in fact.   We have to wait until it is broken before we can describe the preceding event in that way.   In contrast we can describe the second event as soon as it occurs, in such a way as to presuppose the first since, of course, the first has already occurred.

This explains in a preliminary way how we can distinguish relations holding between events from relations which constitute events.   Unfortunately, it must give the impression that relations between events are fundamental to relations which constitute events, since I have defined the second in terms of the first.   This would lead to an infinite regress since by definition a constitutive

relation must be more fundamental than a relation holding between events thus constituted. To remove these regressive implications we have to distinguish more carefully between different sorts of process.

To begin with let us make a broad distinction between self-determining and non-self-determining processes. In my initial illustration of process, *viz.* the stone breaking the window, I took an example of the non-self-determining kind. The events which constitute this process could quite easily have been bracketed together in an entirely different way with different events. The flight of the stone for instance could be selected as the first stage in the recording of its movement by a camera instead of in the breaking of the window. Here the bracketing of events together depends upon the subjective interest. Or again, the flight of the stone could be regarded as a complete process in itself, and the window breaking as a quite distinct process. In describing what goes on we cut up, as it were, the totality of happenings into one of a number of patterns into which they all fit equally well. The one-many necessary connection imposed upon the successive stages in the process is imposed purely by the definition of the terms used in the description.

In contrast where a process is self-determining there are objective reasons in addition to subjective ones for attending to just one particular section of one particular strand of events, and for taking it as a temporal unity. We are objectively justified in regarding a specific grouping of event-units as a temporal unity where the relatively later event-units determine the relatively earlier event-units, but not vice-versa. Let AD be the temporal unity of which the event-units are in necessary connection. Then, it is only if CD is the sufficient condition of BC and AB, and BC the sufficient condition of AB, and furthermore, if neither AB is the sufficient condition of BC or CD, nor BC a sufficient condition of CD, that there are objective reasons for regarding AB as a stage in AC and AC as a stage in AD. If on the other hand, each of the three event-units were a sufficient condition of all, it would be perfectly legitimate to regard AB as a stage in AC, and AC as a stage in AD. Each of these stages is certainly an incomplete form of AD, but they are not stages in the development of AD as a *necessarily connected* whole. They are not stages in the objective determination of AD as an objectively determined whole. The objective determination of the whole would be as complete in AB as in AD. Likewise, if the earlier stages alone are sufficient conditions of the later, they cannot be stages in the objective determination of the whole, because the whole would be

completely determined at the beginning instead of at the end alone.

In finding examples of self-determining processes I am under no obligation to vouch for these examples being genuine, since their function is purely illustrative. Consequently I shall be treading on no deterministic toes by giving instances where later events determine earlier but not vice-versa. However, even supposing that genuine examples can be given, they are possibly reconcilable with deterministic premisses. Successive events, which are in strictly one-one necessary relationships in their more determinate characteristics, may in their more general characteristics display one-many necessary relationships, if indeed they display any at all.

One type of change which apparently exemplifies self-determination is that of organic growth (or decay). In the classic example of the growth of an oak tree from an acorn one can reasonably assert that unless there is an acorn, there will be no oak, and, accordingly, that if there is an oak, there must have been an acorn. On the other hand, there is plenty of evidence to show that acorns may not develop into oak trees. Conditions of soil, weather, etc., are all equally indispensable to the growth of an oak. We may note in passing, however, that this asymmetry of necessary connection between acorns and oak is perfectly compatible with the symmetry of Determinism. The presence of an acorn is an element which a number of incompatible total situations might have in common. Accordingly, the apparent indeterminacy in the consequences of this common element could be explained deterministically in terms of the variety of additional factors that differentiate from each other the various incompatible situations in all of which the acorn is present.

The distinction I have been making between self-determining and non-self-determining processes however still requires further elucidation. We saw how processes of the non-self-determining kind are in a manner subjectively conditioned. To a lesser degree this is also true for the self-determining processes of the kind which I have illustrated by the example of the oak and the acorn. The growth of the acorn has the one-many relationship to the growth of the oak tree only with respect to these rather general characteristics in terms of which I am now describing these two events. If, however, I were able to decribe the more specific characteristics of a particular instance of these two events, and chose to do so, the connection might, for all that has been shown to the contrary, turn out to be one-one. Accordingly, the one-many relationship is subjectively conditioned by the fact that I

have chosen to describe the more general rather than the specific characteristics of the two events. It will follow, of course, that where the specific as well as the general characteristics of a series of events displays a one-many pattern of connection, then this structure is not subjectively conditioned.

The need arises, accordingly, to distinguish between two kinds of self-determining process and here, for the first time we come to the fundamental distinction between processes, or the doer-doing relation, and event-event relations. So far we have supposed that when considering what occurs within a particular spatio-temporal area as a process, we are taking events in an order of increasing inclusiveness instead of one after the other. But since events are processes this manner of elucidation has had the disadvantage of analysing process in terms of itself. All we have really succeeded in doing so far is to show the relation of a comprehensive process to its distinguishable sub-processes. In actual fact however we have hit upon the essential characteristic of a process or event, viz. the one-many relation of dependence holding between its parts. While we dealt with subjectively conditioned processes, it was possible to regard the constituent events as independent entities which we could view separately or together according to the way in which they affect our interests. Actually, however, what constitutes an event as an event is the fact that it occupies a place as a term in a one-many relationship of dependence. The subjectively conditioned processes are simply processes which display a one-many structure in the interdependence of their parts, which is additional to the structure of one-many inter-dependence which actually constitutes these parts as events.

I have shown independently and more rigorously elsewhere (' Order and Disorder in Time ', MIND, July 1957) how temporal order can be derived from one-many necessary connections of this kind. Where there is a nexus of related terms such that each referent implies the existence of any one of a set of mutually exclusive relata, and any one of such a set of mutually exclusive relata is in turn the referent of a similar relation, then this nexus shows all the characteristics of a temporal series. Unfortunately the argument is complex and cannot conveniently be reproduced here.

Instead I shall pass on to the elucidation of the concept of substance by means of the same type of relation. An event, as we already know consists of something doing something. What characterises a something as doer rather than doing is that the same thing is capable of doing something else, whereas a doing or

a thing done can only be made manifest in one particular occurrence. Now if we suppose that being a term in a nexus of one-many necessary connections of the kind described is what constitutes an event as an event, we at the same time see that any event is essentially one of a number of alternative possibilities. In this way then we see how the notion of substance or a doer enters into that of an event as that to which the alternative possibility belongs. Doer and doing are of course inseparables, but when we conceive something as a doer we identify it with the possibilities as a group rather than with one of the possibilities.

III

We are now in a position to make the final distinction between a doer who is a voluntary agent and one who or which is not. Non-voluntary doers are simply those whose alternative behaviour depends principally upon conditions. They will behave alternatively or would have behaved alternatively only if such-and-such conditions will intervene or had intervened. In the instance of voluntary doers, on the other hand, their behaviour is not wholly determined by prevailing or intervening conditions. There has of course been a tendency within recent years to conceal the latter type of alternative behind the former, and to treat all statements about alternatives as if they could be rendered as hypotheticals. I have, however, combated this view elsewhere,[1] and do not propose to criticise it any further.

In distinguishing between the two kinds of agents and their respective doings we must, of course, take care not to treat them as in all respects isolable from each other. The courses of action open to the agent are very much dependent upon the capacities inherent in the objects around him, and the capacities we attribute to these objects depends very much upon the sort of things the agent is capable of doing to them, *i.e.* the way he can use them. Again the things which these objects do are frequently constitutive of what the voluntary agent does, *e.g.* the flying stone is constitutive of the thrown stone. It is important to stress the constitutive relation which non-voluntary doers bear to the voluntary since I have made the whole nature of an event as a process depend upon its place in a nexus of one-many relations of necessary connection. Otherwise I might seem to have failed to explain how other things besides voluntary doers do things.

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[1] *Cf.* ' Causal Modalities and Alternative Action ', *Phil. Quart.* October 1957.

We are now finally in a position to assess the alleged inconsistency in Libertarianism. This supposed inconsistency depends upon identifying responsibility, or efficacy, or the relation borne by the agent to what he does, with the relation of efficient causation —and upon identifying this relation of efficient causation in turn with the sort of relation in terms of which we can predict what will happen on the basis of what has happened. I have argued on the contrary that responsibility or efficacy is a quite distinct type of relation, or rather that it is equivalent to a certain amount of indeterminacy in the relation whereby we predict.

The lack of any overt reference to intention may possibly seem a serious deficiency in my final analysis of voluntary action. This is simply due to the fact that I think the concept of a nexus of one-many necessary connections is likewise basic to that of intention. Briefly my argument is that intentions are expressed by a peculiar type of prediction, ' I am going to do X ', and what distinguishes this type of prediction from others is that it is specifically regarded as not having sufficient causal grounds. I cannot enter into the detail of the argument here since all I have hoped to do in this article has been to outline a new approach to the problem of the freedom of the will. However, it is in principle easy to see that if statements like ' He could have done otherwise' guarantee the voluntariness of an action, an approach must be possible via an analysis of ' could have ' to concepts of voluntariness such as that of intention.

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VII.—THOUGHTS

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I

Clearly not all thinking has to do with what might roughly be called the entertaining of propositions. In fact it would hardly be all that daring to claim that chapter two of *The Concept of Mind* has shown, once and for all, that it simply could not do so. In order to perform some task intelligently, with care and concentration, thinking what one is doing, with one's mind on the job, etc., it is not usual, nor even always possible, let alone necessary, for the overt play of behaviour to be prefaced or accompanied by a step by step play of secret acts of judging, cognizing, etc. The criteria for performances being intelligent or otherwise intellectually high-grade operate directly upon the performances themselves and not upon their supposed hidden causes or concomitants. But such performances are precisely of the sort which we characterize as the operation of minds, or of beings who have minds, or, more usually, simply of thinking beings. By this is not meant that beings who think also happen to produce high-grade public performances of certain kinds, or even that it is because they think, that they produce them. It is simply that being prepared to characterize their performances with the epithets in question is *eo ipso* to be prepared to say that they think.

The extent to which we are not prepared, despite the prodding of certain cyberneticians, to say that machines do or could think is simply an index of our resistance to describing, *pace* advertising agencies handling accounts for firms dealing in automatic washing machines, air conditioners, etc., the so-called actions of any machine as brilliant, wise, prudent, imaginative, quick-witted or shrewd. We have a similar resistance to characterizing what a defective machine does as being timid, neurotic, rascally, ill-conceived, lackadaisical, bored or stupid. Admittedly, we sometimes are prepared to say that what a machine does is cunning, clever or ingenious, or that the machine is temperamental, discriminating or even resourceful. We make such remarks, however, in a special logical tone of voice the rather off-beat articulations of which could be traced out in some detail. It is not so much a question of our speaking metaphorically in these cases; the relation between the " cunning " of a politician's cunning coup and an automatic drilling machine's

cunning way of allowing corrections for wear in its cutting tool is not exactly that of literal meaning to metaphor. Nevertheless, they are not univocal terms either, and that they are not shows something important about ' mental ' concepts.

I take it that the arguments that thinking is not always an inner entertaining of propositions, nor for that matter of volitions, are well-known. The dogma of the ghost in the machine has been exposed as not even a first-grade fable. One senses, however, that glee at having successfully laid the ghost has diverted attention from a necessary job of machine-breaking. For if a human is not a machine with a ghost at the controls neither is he a machine with no ghost at the controls. The use of in-appropriate para-mechanical models in characterizing human acts can show itself in more than one way, for there is more than one kind of mechanistic theory available. The sort that Professor Ryle castigates in *The Concept of Mind* is of what might be termed the ' wires and pulleys ' variety. Thinking, alleges the theory, is a process and one that is distinct from the process of overtly behaving ; yet these two processes are con-nected, for what takes place in my mind can, for example, bring it about that my right foot propels a football down the field ; and, conversely, sticking a needle into my arm can bring about a certain unwelcome state of affairs in my consciousness. The hunt is then on for the nature of this connection.

" Interactionism " is the name of the theory that the two processes are directly linked by ordinary, and yet so very extra-ordinary, causation. " Psycho-physical parallelism " is the pompous name for a counter-theory that there are no causal con-nections, only extraordinarily constant conjunctions. Nevertheless even this latter theory is at heart of the wires and pulleys type ; it is just that according to it there do not happen to be any wires and pulleys discoverable ; no logical reason is advanced why things might not have been otherwise and all the grisly mechanisms have been there for inspection after all. Both of these theories and others of similar ilk (which readers of Broad's *The Mind and its Place in Nature* or Hosper's *Introduction to Philosophical Analysis* will find neatly laid out for perusal) are undermined simply by pointing out that mind-displaying concepts of the sort in question do not allow for the supposed double stream of events at all. Hence no theory is required to explain how the two stream interact or, for that matter, fail to interact.

I hope I will be forgiven for ambling over what is by now well-trampled ground. I have done so simply in order to produce a reminder of one machine-dominated sort of thinking about the

body-mind issue, *viz.* the kind embodied in what is often puzz-lingly referred to as " traditional " dualism. The rejection of such theories can, however, lead to the enshrinement of other mechan-istic models of the human person. One such theory replaces the outdated wires and pulleys with electronics. According to this theory mental events are simply goings-on in the nervous system which is taken to be rather like a very complex arrangement of electronic computers, feedbacks, servo-mechanisms, etc. Dis-positions, presumably, are just, as it were, features of the pro-gramming of the machine. This theory is not dualistic in that it does not claim that there are two processes ; there is only the one process—the neurological process—but there is more than one way of talking about the events in this process just as there is more than one way of talking about, for example, the planet Venus (" the morning star ", " the evening star "). There is the ordinary way of talking about mental phenomena in terms of our everyday concepts of thinking, being in pain, wanting, intending, etc., and then there is the allegedly scientific way in terms of the concepts of neurology and related disciplines.

It is admitted by the exponents of this sort of theory that there are at present neither the concepts nor the scientific techniques necessary for such a mode of discourse to be a fully-fledged rival to our ordinary discourse. They confidently believe, however, that there soon will be, and they gesture significantly in the direction of recent developments in physiology, electronics and cybernetics, which between them will produce the apparatus necessary for fully characterizing all the actions and dispositions of human beings. In any case, they claim that there are no *a priori* logical or philosophical objections to rule out such a development in advance. It is not my intention to discuss this neurophysiological theory of mind in any further detail. I mentioned it here mainly to bring out one way in which a mechanistic account can survive, indeed be fostered by, the exorcism of the ghost from the machine.

There are also other ways : the sort of theory sometimes known as " philosophical " Behaviourism (to distinguish it from the methodological Behaviourism of many experimental psycho-logists) is also mechanistic, though in a different way. It too conceives of a human person as a ghostless machine—as some-thing whose mental workings are, at least in principle, fully open to public view. Certainly, unlike the other theory, it is not mechanistic in the sense of claiming that only para-mechanical predicates, or predicates which are supposedly explained in terms of para-mechanical ones, can be applied to human beings.

Indeed, it explicitly denies this ; it insists that certain predicates, *viz.* psychological predicates, that do not apply to any machine do apply to persons. Nevertheless, it draws the line at a point at which we are still left with the sense of a human being as a complex arrangement of bits of matter that happens to perform in certain ways, albeit admittedly unique ways. It manages to divest a human being of much of what many people, not necessarily Dualists, would want to refer to as the spiritual or interior side of his nature. This comes out in the way it sets its face against the notion of privacy *vis-à-vis* mental life.

Unlike the previous theory it does not do this by saying that mental events are really physiological events : it does it by claiming that so-called mental events are either not events at all or else that they are simply a sub-class of ordinary observable physical events. When they are not events they are dispositions ; when they are events they consists of such activities as uttering words or other noises, grimacing, gesturing and other perfectly public occurrences. Thus, to say that Smith is angry would be to say that Smith is red in the face, and/or swearing violently, and/or waving his fists around, etc.: it would not be to say anything at all about his psyche or his consciousness or any other allegedly private feature of Smith. When dispositions are involved they too are, according to the theory, always displayed in such overt behaviour. Thus, to say that Smith thinks that beer is good for you would be to say that Smith shows a tendency to behave in a certain sort of way, *viz.* to drink beer with relish if it is available, to recommend it to his friends if they are doubtful of its value, etc. Obviously such overt events and publicly-displayed dispositions do constitute a large part of the mental life of human beings. What distinguishes Philosophical Behaviourism as a theory, however, is the claim that they exhaust it. This can only be done, of course, by insisting that, what look like categorical remarks about private mental events are always really disguised hypothetical remarks, or sometimes counterfactual conditionals, even, about public behaviour. I hope, in the course of this discussion, to remove one of the pressures tending to push philosophers in the direction of this desperate theory.

II

Whilst not all thought has got to do with the ' inner ' entertaining of propositions or the carrying out of unwitnessable acts of judging, it is clear that some has. In particular the sort of thought that is marked off by the expressions " a thought ",

" the thought " and " thoughts " is often of this kind. In this connection it is apparent that not all thought consists of the thinking of thoughts ; on the contrary much of it consists of intelligent behaviour without any thoughts at all. Similarly, and to change the idiom slightly, not all thinking has to do with the having of thoughts, for some thinking consists of puzzling over something and this, far from consisting of the having of thoughts, very often consists of the striving for thoughts which may be frustratingly absent (though not, of course, because they are somewhere else).

The situation is much more complicated than this, however, because one can be thinking very hard about what one is doing, *i.e.* doing it with a great deal of care, attention, thought, concentration, etc., and yet what one does may be quite stupid and unintelligent. In this regard " He was thinking quite hard about what he was doing " and " He gave quite an intelligent performance " record marks on different scales, although both are quite high marks. Nevertheless the scales are not utterly lacking in connection with one another : it could not be the case that all, or even most, of the human performances on which great care and concentration is lavished should turn out to be the most stupid and unintelligent ones. If that were so " intelligent " would have broken adrift from part of the conconceptual web in which it is placed ; all ties with thinking and thought would have been severed and in the ensuing ruin many of our important concepts, including the whole notion of education, would lie buried in the debris.

There are other complications, however, in trying to isolate the sense of " thought ", or " thinking ", that I am concerned with here, for expressions like " a thought ", " the thought " and the plural " thoughts " do not always signify mental acts. Sometimes they are used to mean much the same as " proposition(s) " without any reference to whether anyone is, either overtly or secretly, affirming, denying or otherwise entertaining them at any particular time. Very often expressions like " idea " and " suggestion " are also used in everyday speech in this way. Very often too, thoughts turn out to be neither acts of entertaining (mental events) nor the content of what is or can be entertained (propositions) but dispositions, and in this respect " thought " is used very much like " belief ", " knowledge " and " opinion ". Through all this runs, not only the differences between " thought ", " a thought ", " the thought " and " thinking ", but also the often subtle differences between the uses of any of these substantival expressions and those of the verb " think ". We could perhaps just note here some

of the wide range of expressions which embody the above, and further, distinctions.

"I always thought (believed) that he was vain."

"I think that star is Aldebaran (but I am not sure)."

"The thought (idea, suggestion) that he is to blame is quite ridiculous."

"The thought crossed my mind that you might like it."

"A penny for your thoughts."

"I can't think with all this noise."

"He can do it without thinking."

"My thoughts at the time were chaotic (idle, strange commonplace, etc.)."

"Don't be so impetuous ; stop and think."

"What is self-contradictory cannot be thought."

It is obvious, then, that the range covered by " thought " and cognate expressions is an extremely complicated one. In fact, one can hardly talk of a range at all here ; it is rather more like a series of ranges going off in different directions, or in different dimensions. Whether one characterizes this complexity by saying that the expression " thought " covers more than one concept, or that there is only one concept but with several modes of application, is not in question here. At this point, however, I might mention in passing that I see no relevant distinction to be drawn here between the questions " What is the nature of thought? " and " What is the meaning of 'thought'? "; indeed I fail to see how there could be. At the level of philosophical enquiry, investigations into the articulations of ' Reality ' and into the articulations of language emerge as one and the same project. I cannot set my language aside and pry into Nature in a conceptually neutral way, because I should have no means of prying, let alone of registering my results. On the other hand I cannot treat linguistic expressions as though they were merely parts of an abstract or purely formal system or calculus, however loose or open-textured, and leave it an open question as to how this system relates to the world. Such a pseudo-language never could relate to the world except by being connected to some real, i.e. ordinary, language which is anchored in real life, and which is for that reason capable of being learnt from other language-users, right from the start. For these reasons I have not hesitated throughout this discussion to move quite freely and without apology between the so-called formal and material modes. Nor does that mean that this is merely a discussion about words (or, rather, it is, but not in a

sense which can give the critics of ' ordinary language philosophy ' any comfort).

Resisting any dichotomy between, on the one hand, the way we *say*, truly or falsely, how things are and, on the other, the way things *really* are, does not, of course, mean that there are not plenty of purely empirical questions about the nature of thought for psychologists to busy themselves with without being involved in problems about the meaning of " thought "; nor, conversely, does it mean that philologists cannot pursue their perfectly respectable investigations into the word " thought " without surrounding themselves with rats in mazes, electro-encephalograms and other items of scientific *mise en scène*. It is just that, at the level of generality, or simplicity, at which we are engaged in an enquiry of this kind, any significant difference between the question " What sort of thought consists of mental events? " and the question " What uses of ' thought ' and cognate expressions signify mental events? " vanishes, for there is nothing for the distinction to turn on except the purely verbal differences between the two sentences. What, then, is the answer to this question which may be expressed indifferently in the material or the formal mode?

The question is, however, still obscure because nothing has as yet been said about how to deal with the expression " mental event " which occurs in it beyond my previous reference to " the inner entertaining of propositions " and " unwitnessable acts of judging ". These expressions can be taken to refer to a species of mental event but they are not, of course, very helpful : " inner " is not being used in its ordinary spatial sense, " entertaining " is a metaphor, and " acts of judging " is no clearer than " mental event ". But anything like a satisfactory clarification can occur only at the end and not at the beginning of this discussion. The definition of terms will have to wait on, and be guided by, the exigencies revealed by the examination of examples. This much can nevertheless be said at once : " event " contrasts with " disposition " and, in a different way, with " proposition ", though dispositions reveal themselves in events, whilst propositions, though not themselves events, are involved in assertions and denials which are. " Mental " contrasts with " physical " though not without qualification ; a man playing football is doing something eminently physical, but he is not thereby doing something non-mental unless he really is playing like a robot. The paradigm for something non-mental here is the sort of event which we might perhaps be inclined to characterize as purely physical, such as a leaf falling from a tree, or an earthquake.

On the whole then, human actions would seem to be excluded
from the class of non-mental events, although there is a sub-
class of human actions which are characterized as " mental " in a
further sense according to which " mental " contrasts with
" overt ". A case of this is that noted by Ryle (*Concept of Mind*,
p. 34) where we speak of someone doing " mental arithmetic "
in contrast to someone who is doing his sums out loud or on
paper. Ryle gives this distinction rather little prominence but
it corresponds to an important sense of " thinking " in which
thinking contrasts with talking (or writing): " You can stop
me talking (writing) about it but you can't stop me thinking
about it." It also has links with a rather different sort of dis-
tinction between thoughts and words, the one that troubled
Claudius, King of Denmark: " My words fly up, my thoughts
remain below: Words without thoughts never to heaven go."
This last case, however, is complex and partly cuts across the
mental-overt distinction, for there is no suggestion that the words
which Claudius averred to be out of step with his thoughts had
to be spoken out loud. They might have been merely ' mental '
words although, of course, the theatrical convention of the aside
demands that his previous speech beginning " O, my offence is
rank . . . " be delivered out loud so that the audience can know
what is going on. There might have been a different convention
though: the words might have been written on a blackboard
and lowered so that they were visible above the king's head as
he knelt on stage. This would have been as intelligible as the
familiar present-day convention in comic-strips where the
' thoughts ' of the characters are written in balloons which are
connected to the top of their heads by lines of tiny bubbles rather
than to their mouths by continuous lines as in the case of their
spoken utterances.

As I have mentioned, the sort of thought that I am most
concerned with here is the sort that characteristically is described
or reported by means of remarks containing the expressions
" a thought ", " the thought " and the plural " thoughts ".
Typical of such reports would be the following :

" A terrible thought occurred to me."
" The thought crossed my mind that . . . . "
" Sombre thoughts kept haunting me."

and even Tennyson's rather dreadful

" There flutters up a happy thought."

Such thoughts can be and perhaps most often are reported without
the use of substantives like " a thought ", " the thought ",

" thoughts " or even kindred words like " idea " or " notion "
or even more specialized words such as " foreboding ", " pre-
sentiment ", " inkling ", " inspiration ", " pang " (of hope,
awe, fear, regret, remorse, etc.), " realization " or " recollection "
which, sometimes at least, signify events or occurrences that we
would characterize as ' mental ' in the sense in question. Some-
times we do not use any such noun at all ; we simply use a form
of words like " It occurred to me that . . . " or " It crossed my
mind that . . . " or " It came to me that . . . " or " It
dawned on me that . . . " or " It struck me that. . . . "

    If we were pressed to say what the " it " is that occurs in these
and many other similar expressions we would, I think, be torn
between saying, on the one hand, that it is a pronoun standing
in place of " the thought " and, on the other, that it does not
stand for anything, any more than does the " it " in " it is
raining ". The first view draws its strength from the fact that I
can always say " The thought crossed my mind that . . . ",
" The thought occurred to me that . . . ", etc., instead of
using an expression containing " it ". There is something
strange about this though : when " it " is a genuine pronoun
there is always a question as to what it stands for. If I say " It
crossed the road " I could be referring to a cow or a procession or a
steamroller or even a shadow. If, however, I say " It crossed
my mind " then there is only one thing it could have been—a
thought—although, of course, there are all sorts of further
linguistic devices available for me to say just what sort of thought
it was. But saying that it was a thought does not add anything
to just saying that it was an ' it ', for the simple reason that it
could not have been anything else. This brings to light the
cause of part of our discomfort when pressed with the question
" But what exactly is a thought? ": the trouble seems to be that
thoughts are the only inhabitants of the realm in which they
are found ; there are no other creatures sufficiently similar to be
dissimilar, and there is no landscape in which they move. It is in
some respects like being asked " What exactly is a thing? ",
or, to bring out the logical queerness a bit more, " Exactly what
qualities does something have to have in order to be a thing? "
Like things, thoughts seem to be a species of no genus.

    There is a related difficulty. When one looks at expressions
like " It crossed my mind that . . . ", " It dawned on me
that . . . ", " It struck me that . . . ", etc., one is haunted
by the fact that they all seem to be somehow figurative or even
metaphorical. But if one resolves to speak much more ' strictly ',
and to eschew such metaphors or near-metaphors one runs into

an immediate impasse : what *is* the expression that says literally what " It crossed my mind that . . . " says figuratively? Admittedly, " It occurred to me that . . . " seems a little more straightforward and restrained than, say, " It flashed through my mind that . . . ", but would we be happy about saying that the former is literal whilst the other is metaphorical? " It occurred " only seems more respectable because it says less ; it merely signifies that the event happened without indicating, as the more colourful expressions in their several ways do, whether it happened suddenly or slowly, tranquilly or violently, expectedly or surprizingly, etc. But to make a minimal as against a more detailed claim is not to be more exact or precise, even though it may perhaps be more cautious. Of course, " It suddenly occurred to me that . . . " is in a sense less figurative than " It flashed through my mind that . . . " but not in a way that helps us here : it doesn't bring us any closer to saying exactly what it is that I am claiming happened when I claim that something-or-other suddenly occurred to me. Perhaps the main reason why all these expressions have a metaphorical ring is that the key words in all of them, viz. " occurred ", " crossed ", " came ", " struck " and " flashed " all have their real home elsewhere in a quite different sort of discourse. They are not words introduced into the language in order to be applied to thoughts. On the contrary, they primarily have their place in remarks about things, happenings and situations in the ordinary, public, physical world around us. They are, we might say, only employed analogically in talk about thought. The trouble comes when we try to dispense with the analogy.

In the case of a thought we seem to be confronted with an event that we can characterize in only one sort of way, despite the fact that we have an almost unparalleled wealth of expressions, some of which I have mentioned, available for use. We want a genuinely different way of describing the event but are denied it because all of the available expressions, though displaying enormous stylistic differences, somehow seem basically much of a muchness. Not one of them introduces a new explanatory element into the description. No other event is quite like that. If I say " It happened over there ", someone might ask me what happened and I could tell them, for instance, that it was there that the lorry collided with the bus. If my hearer for some reason found that description too difficult to grasp I could say, avoid the word " collide " and tell the story differently, perhaps as one might tell a young child. I could explain what a bus or a lorry is. I could draw on many kinds of words and many different

kinds of examples, and the words I use could be employed in senses that are unquestionably literal. If necessary I could point out things, draw diagrams, paint pictures, display photographs, construct models and mimic the noise of screeching tyres, rending metal and splintering glass. In the case of a thought, though, we seem strangely bereft of genuinely alternative modes of description despite the fact that we have a great number (and one could easily invent more which would be intelligible even if rather inane) of more or less colourful expressions on hand in the language.

It is precisely these difficulties which I believe to be the cause of much of the error and confusion often to be encountered in what is usually called " the philosophy of Mind ". I am here referring to errors and confusions as apparently remote from one another as ' traditional ' Dualism, Behaviourism and the sort of neurophysiological Materialism mentioned earlier in this discussion. They all spring at least in part from the difficulties we encounter when we try to provide some sort of explanatory paraphrase for those strange but ever so common expressions which are used to report those strange but ever so common occurrences—thoughts. For if we cannot provide a straightforward account of mental events we are tempted to adopt either one or other of two basic policies of escape—either to give an altogether extraordinary account of them or else to deny that there are any such events at all. We can give an altogether extraordinary account of them by inventing an altogether extraordinary substance the modifications of which are supposed to constitute the events in question. This lands us with all the utterly intractable problems about the relationship between this ghostly mental substance and ordinary ' physical ' substance, knowledge of other minds, the acquisition of privately-referring concepts, etc., that Dualism is heir to. Rightful disgust with such muddles can tempt us to dispose of the troublesome events by saying that they are " really " just perfectly ordinary, familiar sorts of events, e.g. physiological changes, or else that they are not events at all but dispositions.

III

In what sense then is a thought an event? The simple answer is that it is an event in the only sense that matters, namely, that a date, time and place is, in principle, always assignable to it. If anyone says " It suddenly occurred to me that so and so " it is always proper for the question to be put as to when it happened

that so-and-so occurred to him. The answer would be in terms of a date and clock time or some other quite ordinary time-identifying expression such as, for example, " Yesterday, just as I was about to catch my usual bus to work ". Sometimes, of course, no answer, or perhaps just a vague answer, would be forthcoming, but there would be no special significance in this. The speaker might have forgotten just when it was, or he might wish to conceal it, or he might be lying about it having happened at all. But such exigencies can attend any report of any event ; there is nothing unique in this connection about reporting thoughts. Thoughts also occur at places as well as at times. " Where did it occur to you that so-and-so? " is a perfectly straightforward question to which a perfectly straightforward answer such as " Outside the Radcliffe " or " In Dolores's rose-garden " or " I can't remember " is always returnable. Again, there is no special difficulty about reporting the place in which such mental events have taken place.

It should be noted, though, that " Where did it occur to you that so-and-so ?" is an unambiguous question in a way that " Where did you get the pain? " is not. The latter question could in certain conversational contexts be answered by a remark such as " In the train ", but normally, of course, the appropriate response would be something like " In my right knee ". In *that* sense, the sense in which pains occur at anatomical as well as at geographical places, thoughts do not occur at a place. If someone were misguidedly to press me for an answer as to the anatomical place at which the thought took place, I might reply " In my head ", but this would not be to specify a location for the event. The reply would be more or less equivalent to " I said it was a *thought* didn't I? " As recent philosophical writing has stressed, " in my mind " does not specify a place either, any more than does " in my imagination " or " in my dreams ". Ryle justly observes that it does not specify even a metaphorical place.

Thoughts, then, are events in the straightforward sense that they take place at particular places in the world and at particular times in its history. One might just add they take place very frequently. The further respect in which thoughts are specifiable as events is that they always, so to speak, attach to persons. Somebody's name or a personal pronoun must always figure in, or be contextually implied by, any statement about the occurrence of a thought. In all these respects thoughts are quite solidly grounded as events : there is nothing ' other-worldly ' about them ; they occur at ordinary times at ordinary places to ordinary

persons. That much is plain sailing ; it is when we essay a
further characterization of these events that difficulties begin
to crowd in and objections take on a more savage aspect. The
first problem that naturally comes to mind is in a way the most
harassing ; it concerns the mysteriously insubstantial nature of
these thought-events.

The occurrence of an event entails that something has
changed : the description of an event—any event—is the
description of some change that has befallen something or
other. What, then, is the subject of the change when a
thought occurs? Why the person to whom it occurs of course :
this seems, up to this point, a straightforward enough reply.
But surely when we say that something has changed we are able,
at least in principle, to specify a number of features of the change,
e.g. (a) how long the change took, (b) the successive courses or
phases of the change, (c) the property or properties of the thing
in question which underwent change (e.g. its colour, shape, size,
position, mass, electric charge, etc.), (d) which parts of the thing
were affected and in what order, (e) the nature of the agency
responsible and the manner of its action, (f) the precise difference
in the states of affairs before and after the change (i.e. apart
from the purely circular difference that one state was before,
and the other after, the event). Admittedly we may sometimes
encounter certain difficulties in specifying one or other of these
features in the case of certain changes, and in other cases certain
of them may not apply. But in the case of the occurrence of
thoughts we get into a tangle in trying to specify any of these
features.

Suppose we try to answer the question as to how long a thought
takes to occur. Looking at it in one way we might be inclined to
say it is instantaneous. But this will not do if we mean that it
takes literally no time at all, for this suggests that we might well
have any number of things occur to us in an infinitesimal fraction
of a second. Perhaps, however, we mean that it takes no time
in the sense that it is not a process but the termination of a
process, like winning a race. But then we could ask what the
process was that it was the termination of, and how long that
took. In some cases, of course, the occurrence of thoughts does
come after a process—the process of cogitation or ' racking one's
brains '. But quite often this is not the case. Looking at the
question another way we might say that sometimes thoughts
come suddenly, whilst others only dawn on us slowly. We all
know, in ordinary conversation, how to take such remarks, but
again we strike difficulties if we try to press the matter further.

If a thought only dawns on us slowly we feel we ought to be able to give an account of its successive phases, as we can of anything else that occurs gradually. But what could the successive phases of a thought possibly be? We might just mean that we had one thought, then another that led on from and so to speak extended the first, then another that further developed the idea, and so on until we found ourselves with a complete, coherent set of thoughts. But the model of adding bits of phrases together until we end up with a complete sentence is obtruding itself here. In any case, one could again ask of each of the constituent thoughts " Yes, but how long did *that* take? " and the same problems would arise.

One over-riding or pervasive difficulty brought to light by all this is, of course, the fact that we possess no clear criterion for what is to constitute a unitary thought. Should we speak, in the above sort of case, of a number of successive and mutually supporting thoughts, or should we speak of one gradually un-folding thought? Not only do we possess no technique for answering this question but it is hard to see how we could even begin to devise one that we could really apply. It is not just an easily-remediable linguistic lacuna that we are confronted with here ; it is the intransigence of the material itself. There are, however, some limits to this dilemma : we can very often say with complete confidence that several quite different thoughts occurred to us during a particular period. We would have no hesitation in doing this if several quite different and unconnected items of subject-matter had been engaging our attention. It is when we are occupied with what familiar idiom calls " a train of thought " that the bleakest impossibility with regard to the numerical specification of thoughts presents itself.

Suppose, then, we shelve this difficulty and try to answer the question as to what properties or parts of a person are involved when a thought occurs to him. We are asking for a description of just how, i.e. in precisely what way, he is changed by virtue of this event. And we do not want the empty reply that now he is a person who has thought so-and-so whereas previously he was not such a person. It is at this point that the lure of the neuro-physical Materialism mentioned earlier is strongest. There is an enormous temptation to run away and look into the person's brain and discover changes *there* at least. But it is a tempta-tion to irrelevance Here too, it is that the Philosophical Be-haviourist swaggers forward and presents his solution. It is quite simple : he is changed in that he is now disposed to behave in certain ways, even if only to utter something of the form " It just occurred to me that . . . ", in which he previously had

25

no tendency to behave. But we have, I trust, already agreed
that a definite event actually does take place when something
occurs to a person, and it is that event of which we want an
account. It is no use attempting to convert it into a disposition,
because a disposition, until it is actually cashed in terms of real
events, is only, so to speak, a cluster of hypotheticals. But it
just might happen that not one of the hypotheticals is actually
realized in the future. In that case there would be no event at
all! But there *was* an event—the event which I remind myself
of by saying, not necessarily out loud either, " Yesterday, at
lunch time, it occurred to me that . . . ".

If I were merely reporting the onset of a disposition to overtly
behave in certain ways then I could not report it : if there are no
mental events there would be nothing to report until I had actually
behaved. Even then I could not report it without the report
being self-referring in a very strange way. What would be
mentioned in the report would have to be nothing more nor less
than the fact of my making that very report, together perhaps with
the implied claim that I would go on making similar ' reports ' in
suitable circumstances in the future. But it is not intelligible
for me to say, or imply, " That's my story and I'm sticking to it "
if I have not yet told a story. Philosophical theories aside, is
anyone in any doubt that when he today sincerely says " Such-
and-such occurred to me yesterday " that he really is referring
to something he believes actually did take place yesterday and
not to his behaviour at the moment or to his probable behaviour
next week?

The philosophers of the ' British Empiricist Tradition ' were
puzzled by the mysteriously insubstantial character of thoughts.
Surely if there were such events there had to be some more or
less solid stuff, the modification of which would constitute the
events? Surely if there were a play there had to be players?
Hume's ideas and impressions behave very much like theatrical
performers : they make their entrance on to the stage of con-
sciousness, group and re-group themselves, sometimes take
centre stage and sometimes lurk in the back row of the chorus,
periodically disappearing off-stage into the wings of memory,
perhaps to re-appear later, albeit with diminished glory, beside
the bright new stars making their first appearance. Of course,
thoughts could not be made up of anything really solid, but at
least they could be composed of the, as it were, shadows of some-
thing quite substantial. Berkeley's move in seizing on images was
natural enough. Mental images are pretty flimsy objects, but
at least they are not quite as diaphanous as, say abstract general

ideas. Why then, a thought must really be a sort of image or, rather, parade of images!

We can see the drive behind this idea: if thinking, in the sense of the having of thoughts in the way I have been discussing, is a series of ' goings-on ' then there must be something to be the elements involved in the occurrences. You cannot have an event unless there are bits and pieces of some sort to participate in it. Why pick on images? Well, because most people do have mental images of varying degrees of vivacity, to use Hume's term, and most people can have them, to a certain extent, at will. Consequently, if we try introspecting we can fairly easily ' catch ourselves ' having mental images. Also, there is a sense of " thinking " which is more or less synonymous with one of the sense of " imagining ". I can quite properly claim to be thinking of yesterday's football match if I am simply holding before my mind's eye various scenes from the game. It is perhaps also a fact that many people have scrappy images, usually visual or auditory, whenever thoughts occur to them. Perhaps, for example, if it suddenly occurs to me that Peter might drop in for a drink, I find myself with an image of Peter knocking at a door, or of myself handing him a glass, or of Peter's voice saying " I thought I'd just drop in as I was passing ", or something of the sort. One can see here the reason why some philosophers wanted to say that to have thoughts is to have images or that we think ' in ' images. It matters little whether these images are of the appearances, tastes, smells, noises or tactile qualities of objects, or of words, written or spoken, or of mathematical symbols or musical notations, just so long as there are images.

This view, though easily refuted, still has its adherents. It is patently false because there is no self-contradiction involved in someone saying that it occurred to him at a particular time that such-and-such, whilst at the same time steadfastly denying that he had any mental images whatsoever at the time in question. In fact, not only could such a claim be made without self-contradiction, it could very often be made quite truly. In any case, no collection of images, however complicated, could ever fully correspond to a thought. No images could, of themselves, amount to, or constitute, the thought that I report when I say, for example, " It occurred to me that Peter might drop in today for a drink ". The images are equivocal in a way in which the thought is quite definite. Images can never be anything more than illustrations of my thoughts, just as pictures in a book can never be more than illustrations of the text.

We are now in a position to savour the full pungency of the
dilemma. It would seem either that thoughts are not mental
events, or else that they consist of mental images or flickerings
in nerve cells or something. A thought could not occur and at
the same time be composed of *nothing*. Most philosophers
have taken the second horn of the dilemma. They were quite
rightly convinced that thoughts, at least in the sense I am con-
cerned with here, are mental events, so they felt obliged to fish
around energetically to see what sort of stuff the material of
thought is, images emerging as the most popular candidate.
In this quest for the stuff of thought they were quite misguided.
Philosophical Behaviourists accepted the other horn of the
dilemma. Having seen quite clearly that thinking could not
consist of any sort of material or even shadow-material such as
mental imagery, they then proceeded to assert that thoughts are
not events at all but are really dispositions to overtly behave,
e.g. to make " thought-reporting " remarks, in particular ways
in the future. But to attempt to dispose of the problem in this
way is to throw out the baby with the bath-water.

How then can we dispose of the problem? How can we reconcile
the fact that thoughts are occurrences with the fact that they do
not involve the alteration of any stuff at all, not even shadow-stuff
such as mental imagery? The answer is vexing but inevitable :
we just have to learn to live with the mystery : thoughts are *sui
generis*. Thoughts just cannot be ' explained ' by equating them
with something else of a more familiar kind—something we can get
our teeth into—and that is all there is to it. There are, of course,
excellent methodological reasons for being wary of character-
izing anything as absolutely *sui generis* ; such a move has often
in the past turned out to be a piece of philosophical laziness
masking the need for further clarification and enquiry. We can
now see, for example, that it was a mistake to think that good-
ness was some sort of unique, non-natural property. But this
excellent methodological attitude should not harden into the
philosophical dogma that there is not, or could not be, anything
sui generis.

We all know how to report our thoughts ; we have a wealth
of expressions, some of which I have listed, available for this
purpose. There is nothing particularly queer or troublesome
about making such reports. It will be noticed, however, that
all our thought-reporting expressions contain a phrase speci-
fying what our thought was about. This is not accidental :
there is no way of describing our thoughts except by saying what
they were about. We can, of course, characterize our thoughts

by saying that they were pleasant or surprising or sombre or commonplace or something of the sort. What we can *not* do is to describe our thoughts by describing, so to speak, their actual ingredients separately from what the thoughts were about. Here there is a huge gulf between thinking something and saying something. For if I say something, what I do can be described quite independently of what I am talking about : somebody could give quite a minute description of the frequencies, amplitudes, harmonics, etc., of the sounds that issue from my mouth and of the facial and other movements that accompany their production. Similarly, if I write something someone can give a detailed description of the morphology of the marks I make and of the movements that go into their production. But if we try this sort of procedure on thoughts we draw a blank : nothing of the kind can be done.

If I could be permitted the luxury of a grandiloquent slogan at this point, it would be to say that Thought is Pure Intentionality. We can always say what our thoughts were about, but any attempt to describe their morphology ends up as a description of something quite irrelevant such as our mental imagery or our body chemistry. And if we find no mental imagery, as we often do, it is sheer perversity to insist that there *must* have been imagery otherwise we could not have had a thought. Considerations of this kind were what led at least one school of medieval philosophers to make a radical distinction of kind between 'intellectual' events such as the having of thoughts and other mental events such as the having of images. Thought was considered something 'spiritual' in a sense that mental imagery was not. Since Descartes, however, philosophers have tended to lump together all sorts of heterogeneous mental items ranging from thoughts to images, pains, feelings, sensations, memories and emotions. The violent mixture has produced nothing but philosophical dyspepsia.

At the beginning of this discussion I spoke of the " entertaining of propositions ". Is not characterizing thought in this way, however, falling into just the same sort of error as I have been condemning? Is it not professing to find in propositions, or perhaps in concepts, the ingredients of which thoughts are composed, and is not this just what I have been claiming cannot be done? No, because propositions are not entities and cannot be ingredients of anything. They are not even shadow-entities in the sense in which mental images could be said to be shadow-entities. When I say that it occurred to me a few minutes ago that Peter might drop in today for a drink, I am reporting a thought I

had. I could have reported the event by saying that a few minutes ago I was entertaining the proposition that Peter would drop in today for a drink. To report in this way is not, however, to add anything to the first report ; in particular, it is not to give a quasi-chemical analysis of my thoughts. All it does is to give a use for, or one of the uses of, the term " proposition ". It is not, for example, to suggest that the *sentence* " Peter may drop in today for a drink " ran through my head. It is not to suggest that I had any visual or auditory or any other sort of mental image of this or, for that matter, of any other sentence in English, Hindi, or any other language.

This gives a faint clue to the link between this use of " proposition " and its use in, say, logic. For what characterizes propositions as they commonly are discussed in logic is the fact that the same proposition can be indifferently expressed by a large number of different sentences either in the same or in different languages. Furthermore, it can be expressed by something written or spoken or flashed out on a heliograph. A particular proposition cannot be identified with any particular sentence. Neither can a thought. That is why having a thought is not like talking to oneself.

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VIII.—DISCUSSIONS

NECESSARY PROPOSITIONS AND "A PRIORI" KNOWLEDGE IN KANT

1. *Necessary propositions in general*

In his article on necessary propositions (MIND, July 1958) Mr. R. Robinson has argued that " the concept of a necessary proposition is now a muddle ", and that this muddle began with Kant (p. 293). He distinguishes between what he calls " four clear concepts " of a necessary proposition, and argues that Kant's concept of a necessary proposition is just a confusion of these. Whilst agreeing that what Kant says about necessary propositions does not fit Robinson's conceptual scheme, I believe that this does not indicate that Kant was muddled, but simply that the problem which exercised him was not Robinson's.

First, a reminder of the four senses of " necessary proposition " which Robinson recognises. He distinguishes between :

(1) The " compulsory belief " sense. A necessary proposition is one " which it is necessary for us men to believe " (p. 290)—either because it has not occurred to us to doubt it, or because it seems obviously true to us, or because something has compelled us to believe it, or for other causes. Also in this class are included propositions which it is necessary to believe if a certain purpose is to be achieved. Robinson gives as an example the " Quicunque vult " proposition— " Whosoever will be saved : before all things it is necessary that he hold the Catholick faith."[1]

(2) The " Aristotelian " or " apodeictic " sense. A necessary proposition is of the form " S must be P ", " S cannot be P ", etc.

(3) The " Leibnizian " sense. A necessary proposition is one such that either itself or its contradictory is self-contradictory.

(4) The " universal " sense. A necessary proposition is one " asserting a universal connection with unrestricted generality " (p. 291). Robinson has in mind propositions such as " All bodies are

[1] It is not my chief purpose here to discuss Robinson's classification as such, but it may be worth while to remark that in grouping all these together he is ignoring distinctions which many philosophers have thought important. For example, both Hume and Kant would say that there are certain propositions which we are compelled to believe, but their account of the nature of this compulsion is very different. Consider, again, the " Quicunque vult " proposition. To say that you must believe such and such if you want to be saved is not like saying, for example, that you can't help believing that your chair continues to exist when you are away from it. Rather, it is more like the proposition, " If God wants to create the best of all possible worlds, such and such is the kind of world that he must create ". That is, it is like the kind of proposition which Leibniz, following Aristotle, called " hypothetically necessary ". (See, *e.g.* Grua, *Textes Inédits de Leibniz*, pp. 271, 273, 288 ; Aristotle, *Physics*, II 9, 200 a 13-14.)

391

heavy ", as opposed to propositions such as " All Kant's books are obscure ", which asserts only *restricted* generality.

With these distinctions in mind, let us now consider what Kant says about necessary propositions. And first let us note the context in which he speaks of them. This is an obvious enough step, but it is one which Robinson neglects to take ; and this, I believe, is why he gets into difficulties. Now if one takes in their context the sentences which Robinson quotes (most of them come from Section II of the Introduction to the second edition of the *Critique of Pure Reason*), it is plain that the chief topic is not the necessary proposition as such, but *a priori* knowledge. Kant wishes to prove that we have knowledge " absolutely independent of all experience " (B 3), and does this by showing " that there actually are in human knowledge judgements which are necessary and in the strictest sense universal " (B 4 : Kemp-Smith trans.). Here it looks as though he is speaking of necessary propositions in Robinson's senses (2) and (4) : but note the following points. (i) There are, says Kant, certain judgements *in human knowledge.* That is, he is not concerned with all judgements or all propositions (I take it that there is no significant difference here between these), but only with what we say or think when we *know* that what we are saying or thinking is true. (ii) Kant uses the words " necessary *and* in the strictest sense universal ". He does not say that an unrestrictedly universal proposition is a *type* of necessary proposition, as Robinson does; instead, he regards both necessity and universality as criteria of *a priori* knowledge. In other words, when a proposition is known to be true, and when that proposition says, not just that something is so and so, but that it cannot be otherwise (B 3), then this is an instance of *a priori* knowledge ; and so also when what is known is an assertion of unrestricted generality.

Robinson argues (p. 294) that one of the faults in Kant's account is that he does not make clear the relations between necessity and truth. The objection is not well stated, for a proposition can be true without being known to be true, and we have seen that knowledge is Kant's subject here. But it must be admitted that the objection, if re-stated, does indicate a deficiency in what Kant says, in that it raises questions to which he does not provide an answer. For one can ask whether or not a necessary proposition is, *by definition*, one which is not only expressed by sentences of Robinson's types (2) or (4), but is also known to be true. That is, one can ask whether there are necessary propositions which are *not* known to be true, and which may even be false. And to this Kant seems to give no reply. But the fact that Kant leaves a question unanswered does not imply that he was confused. Quite possibly he might have said : " Use the words ' necessary proposition ' as you like. What puzzles me is the fact that people can say things like ' A body must be extended ', or ' All bodies are heavy ', *and know they are right.* And when I speak of necessary propositions in the *Critique of Pure Reason*, you may take it that this is what I have in mind."

Certainly, if this were all the confusion in Kant's account of the necessary proposition, we should not have much ground for complaint. Robinson, however, claims to find much more. For example, he argues that Kant should not have distinguished universality from necessity, since they are in fact one and the same thing (p. 293). But this is unjust. Kant himself points out that his two criteria of *a priori* knowledge are strictly speaking inseparable, and makes it clear that if he distinguishes between the two, it is simply for convenience. For he says that it is sometimes easier to prove, *e.g.* unrestricted universality than necessity (B 4).

Robinson asks further how Kant thinks that we know that a necessary proposition is true (pp. 294-295). In the case of propositions of type (3) Robinson finds no difficulty ; but what of those necessary propositions whose contradictories are consistent? How, for instance, does Kant think that we know the necessary propositions of physics and of mathematics to be true? Robinson's suggestion is that Kant thought that we are *always* right in asserting propositions of this kind ; that " the mere fact that we do make these outrageously sweeping assertions, going beyond all possible experience, by itself shows that they are true " (p. 295). He does not attempt to explain why, if this is so, Kant did not accept the propositions of dogmatic metaphysics ; nor does he explain why Kant did not believe, *e.g.* the propositions of Cartesian physics, which are just as outrageously sweeping as those of Newtonian physics, which he did accept.

The fact is that Kant's views are not nearly as wild as those which Robinson suggests. Kant starts from the assumption that the sciences of physics and mathematics do exist (B 20), and that there is general agreement amongst physicists and mathematicians as to the truth of certain propositions which are of unrestricted generality. In physics, for example, such a proposition is the assertion that in all changes of the material world, the quantity of matter remains unchanged (B 17). Kant, then, is not so undiscriminating as to think that *every* proposition of unrestricted universality is true, but he does think that there is general agreement among scientists that *some* such propositions are known to be true. It is easy, in the light of modern knowledge, to condemn him for this, and to say that he was " far too much of a dogmatist in physics " (Robinson, p. 294). But one should remember that in the eighteenth century large numbers of very intelligent people believed that fundamental and unshakeable laws of physics had been discovered ; people really did think that after Newton had appeared on earth, all was light. Kant may have been a dogmatist in physics, but he was by no means alone in his dogmatism.

What have been discussed so far are the relations between Kant's account of *a priori* knowledge and Robinson's senses (2) and (4) of the words " necessary proposition ". With regard to the other senses distinguished by Robinson, these come closest to what Kant says in answer to his question about the possibility of *a priori*

knowledge. For he says that such knowledge is possible sometimes because the proposition uttered is one which it would be self-contradictory to deny (*cf.* sense 3), and sometimes because the proposition is one which we have to believe true (*cf.* sense 1). Robinson notes, quite correctly, that Kant does not use sense (1) to *define* a necessary proposition—or, for that matter, *a priori* knowledge. What he says about having to believe certain propositions is a conclusion, the answer to a problem, and not a definition (p. 291). Robinson does not note, however, that what Kant says about propositions which it would be self-contradictory to deny is similarly an answer to a problem—namely, how is knowledge of the truths of logic possible?

To sum up. Robinson asserts (p. 293) that

> Kant thought that he had found a necessary proposition whenever he felt compelled to believe (sense 1) a proposition which either asserted that something *must* be so (sense 2), or had a selfcontradictory contradictory (sense 3), or asserted something with unrestricted universality (sense 4).

In place of this, I suggest the following. Kant is interested in the fact that we can know certain propositions to be true when these propositions either say that something must be so (*cf.* sense 2), or assert something with unrestricted universality (*cf.* 4). Such knowledge is sometimes possible, he says, because the proposition in question is one which it would be self-contradictory to deny (*cf.* 3). Where this is not the case, the proposition is one which in a certain sense we have to believe (*cf.* 1).

I write " *cf.* 1 ", etc., to indicate that nothing of what Kant says exactly fits Robinson's classification. But I do not think that this need condemn it.

2. *Analytic Truths*

Robinson also finds a good deal to criticize in what Kant says about analytic and synthetic truths. There was, he says, an obvious way to make this distinction, but Kant neglected this in favour of a much more obscure way. The obvious method was to make use of what Robinson calls the " Leibnizian " sense of necessary proposition (his sense 3), and to say that " an analytic truth is any truth whose denial is selfcontradictory ; but a synthetic truth is any truth whose denial is selfconsistent " (p. 295). Robinson notes that Kant does use such a definition sometimes, but that as a rule he gives a different explanation of the distinction. Typical is what he says in the *Critique of Pure Reason* :

> In all judgements in which the relation of a subject to the predicate is thought (I take into consideration affirmative judgements only, the subsequent application to negative judgements being easily made), this relation is possible in two different ways. Either the predicate B belongs to the subject A, as something which is (covertly) contained in this concept A ; or B lies outside the concept A, although it does indeed stand in connection with it.

(B 10 : Kemp-Smith trans.)

Robinson finds this very puzzling. The first point he makes is that
the scope of the definition is obscure. The problem concerns the
phrase " In all judgements in which the relation of a subject to the
predicate is thought ". Does this describe all judgements without
exception, or does it mark off one kind of judgements from the
remainder? If the latter, then we cannot say of every judgment
that it is either analytic or synthetic. Robinson points out (p. 296)
that Kant's phraseology makes it look as though the latter is meant ;
but there are other considerations to set against this. For example,
in the *Prolegomena* (*Werke*, Akad. Ausg. iv. 266) Kant says that *all*
judgements, whatever their origin or their logical form, are either
analytic or synthetic, and goes on to define this distinction in terms of
subject and predicate, much as in the *Critique of Pure Reason*.
This suggests that in the *Critique* (to which the *Prolegomena* stands,
in Kant's own words, as a kind of preparatory exercise : iv. 261),
Kant is referring to all judgements. In his logical works, again,
Kant seems to imply (without being absolutely explicit) that all
judgements are of the subject-predicate form. For example, he
seems to be speaking of all categorical propositions without exception
when he says in the *Logic* that in categorical judgements, subject and
predicate provide the *matter* of the judgement, and the copula the
form (*Werke*, Akad. Ausg. ix. 105). Again, the pre-critical essay
Die falsche Spitzfindigkeit der vier syllogistischen Figuren begins
with the remark, " To compare something with a thing as a mark is
called *judging*. The thing itself is the subject, the mark the predi-
cate ", which seems to be giving a definition of the judgement as such.

Against this, Robinson argues (pp. 296-297) that

> Kant's famous doctrine that existence is not a predicate implies
> rather obviously that the judgement that ' God exists ' is not in the
> subject-predicate form, and therefore that some judgements do not
> ' think the relation of a subject to a predicate '.

This argument would be conclusive if Kant had said that existence is
not a predicate ; but he did not. What Kant said was that existence
is not a *real* predicate (B 626) ; he did not deny that it could be what
he called a *logical* predicate. Anything we please, he said, can
serve as a logical predicate—for example, the subject can even be
predicated of itself. But a " real " or " determining " predicate is
one which is added to and enlarges the concept of the subject, and
existence is not such a predicate.

I conclude, then, that Robinson is mistaken in supposing that
Kant's division of judgements into analytic and synthetic is one of a
species of judgements only. It now remains to consider Kant's use of
the notion of containment. This, according to Robinson, can be
interpreted clearly only in terms of what he calls the " Leibnizian "
necessary proposition, and he finds it hard to see why Kant should
have changed from the contradiction-criterion to the (inferior)
containment-criterion, the two reasons he suggests being advanced

without much confidence (pp. 297-298). I agree that there is a puzzle relating to Kant's use of the containment-criterion, but suggest that it is not of the kind that Robinson thinks.

Robinson seems to believe that Kant, in using this criterion, is introducing something quite new. But this is not so ; what he is doing is making a new use of a concept which Leibniz had already employed for a different purpose. It is now well known that what Kant gave as a definition of analytic propositions, Leibniz gave as a definition of all true affirmative propositions without exception—necessary or contingent. "Semper enim notio praedicati inest subjecto in propositione vera ", he wrote to Arnauld in 1686 (*Die philosophischen Schriften von G. W. Leibniz*, ed. Gerhardt, ii. 51). For example, if it is true to say that gold is a metal, this is because the concept of metal is in the concept of gold, in the sense that " in the concept of gold there is contained the concept of metal and something else—for example, the concept of the heaviest among metals " (Couturat, *Opuscules et Fragments Inédits de Leibniz*, p. 53). The obvious objection, that this seems to destroy the distinction between necessary and contingent propositions, Leibniz tries to meet by saying that a necessary proposition is one in which the inclusion of the predicate in the subject can be demonstrated in a finite number of steps, but that in the case of a contingent proposition an infinite number of steps would be required. (See, *e.g.* Couturat, *op. cit.* pp. 388-389.)

It is clear, then, that the notion of the containment of predicate in subject was already present in Leibniz, and that what Kant did was to use this notion to state the difference between certain types of true proposition, rather than use it to define truth in general, as Leibniz did. Kant was therefore right in saying that he was the first to draw a distinction between analytic and synthetic judgements (*Critique*, B 19 : *cf.* Robinson, p. 299) ; for although the notion of containment is to be found in Leibniz, the idea that in some true propositions the predicate lies outside the subject is one which Leibniz would have rejected.

But there is still a problem relating to Kant's use of the containment-criterion. This concerns the way in which Kant came to know of Leibniz's use of the notion of containment. Leibniz speaks of truth in terms of containment quite explicitly in a number of passages, but it is unlikely that Kant knew of any of them ; most of them, indeed, were only published in the nineteenth and twentieth centuries.[1] It might perhaps be thought that Kant's

[1] To the best of my knowledge, the only relevant passage which could have come to Kant's notice is the one from the letter to Arnauld quoted earlier. This letter was published in 1776 as part of Arnauld's correspondence (Ravier, *Bibliographie des Oeuvres de Leibniz*, pp. 289-290), but I do not know of any passage in which Kant refers to this work, and in any case it may be assumed that by 1776 the fundamental ideas of the critical philosophy were already well formed.

source of information was Leibniz's pupil, Wolff, who could reasonably be expected to know more of his teacher's ideas than Leibniz himself saw fit to publish. Leibniz, however, said that Wolff knew little of his philosophy outside his published works (letter to Remond, 1714 : Gerhardt, *op. cit.* iii. 619), and indeed Wolff's own definition of truth is not given in terms of containment (*e.g. Logic*, Eng. trans. 1770, chap. 9, sec. 6).

Perhaps the link between Leibniz and Kant is provided by another way in which Leibniz defined truth, namely in terms of identity. Kant certainly knew of Leibniz's *Nouveaux Essais*, published by Raspe in 1765 (Ravier, *op. cit.* p. 281 ; *cf.* Adickes's edition of the *Critique*, pp. xiv-xv). When Leibniz discusses in this work what he calls the primitive truths of reason, he says that these are identical propositions (Gerhardt, v. 343). Now, Kant also said that analytic truths were identical, or rather that their truth was based on identity (*e.g. Critique*, B 622 ; *Logic, Werke*, ix. 111), and it is reasonable to assume that here at least there is a link with Leibniz. This, however, does not explain Kant's use of the notion of containment, unless a connection can be shown to exist between containment and identity. I believe that it can, and in the following way. When Leibniz and Kant speak of identical propositions they have in mind, not only propositions of the form " That which is A is A ", but also those of the form " That which is A and B is A ". For example, in the passage just mentioned Leibniz gives as instances the propositions " The equilateral rectangle is a rectangle " and " The reasonable animal is always an animal ". Similarly Kant's example of an identical proposition in the *Logic* is (*loc. cit.*) " To all x to which there belongs the concept of body, (a + b), there belongs also extension, (b) ". In other words, to say that all bodies are extended is to say that that which is both extended (b) and something else (a) is also extended (b). This is very reminiscent of the way in which Leibniz explains the inclusion of the predicate in the subject (*cf.* Couturat, *Opuscules*, p. 53, quoted above), and it is easy to see how Kant also could have been led to say that, in such cases, the predicate is contained in the subject.

In all this, I am not concerned to defend the way in which Kant explains the necessary character of the truths of logic. Robinson is doubtless right in saying that Kant, and, I would add, Leibniz, would have done better to keep to the contradiction-criterion. What I have argued is that Kant's assertions are not nearly as unintelligible as Robinson seems to think.

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TRUTH, FUTURITY, AND CONTINGENCY

I

THE continuing dispute about the truth-value of propositions concerning future contingent events suffers from the fact that the disputants often attack and defend different things. The most recent example of what I conceive to be a misplaced attack is offered by Mr. R. D. Bradley in " Must The Future Be What It is Going To Be? "[1] If we disregard those few logicians who have interested themselves in three-valued logic, we find that Bradley defends a version of determinism (" logical determinism ") which no one ever seems to have attacked, and attacks a version of libertarianism (" logical libertarianism ") which few if any philosophers have ever defended.

Logical determinism as defined by Bradley is no other doctrine than that the usual laws of logic are valid, while logical libertarianism is the doctrine that these same laws, notably that of the excluded middle, do not always hold.

Logical determinism, says Mr. Bradley, simply asserts the law of identity, the law of non-contradiction, and the law of excluded middle. Explicating the last of these, he says (p. 194) :

> if Fx is true, then not only must what Fx asserts be the case, but it is logically impossible that it should *not* be the case (since otherwise Fx would not be true) . . . Thus, according to logical determinism, everything is determined or rather *determinate* in the sense that it is what it is and logically cannot be otherwise.

All of this holds equally of the present, the past, and the future. None of them can be changed.

> For it is a logically necessary truth that what will be will be ; if an event is to occur, there is nothing and no-one that can conceivably bring it about that it will not occur ; even God is impotent in the face of logical necessity.

These two passages illustrate the large and unjustified jump which Bradley makes when he goes from saying that everything is *determinate* to concluding that therefore nothing could be otherwise than it is.

We must agree with him this far : anything (say *a*) cannot be other than *a* as long as it is *a*. Similarly, if *a* is an event in the past, *a* had to be *a*, as long as it was *a*. It could not have been not-*a* and also *a*. And as far as the future goes : if *a* is going to take place *a* must take place if it is going to be *a*.

But these are all mere tautologies. They can be summarized by saying that nothing can be other than it is while remaining what it is,

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[1] MIND, No. 270 (April, 1959).

or that *a* implies *a*. In Bradley's own words, everything " is what it is and logically cannot be otherwise ".

Bradley maintains that none of this means that logical determinism entails fatalism, while, he alleges, " some libertarians think that logical determinism *is* fatalistic ". It is this fear of fatalism which in Bradley's opinion causes the rejection of logical determinism. But we can easily agree with him that logical determinism is *not* fatalistic. While it is true that " if an event is to occur, there is nothing and no-one that can conceivably bring it about that it would not occur ", what is relevant to the question of fatalism is the hypothesis *that it is to occur*. True, if the event is to occur, then it is to occur. But the question can be asked : " Must it occur? " Logical determinism, in Bradley's sense, says nothing about this.

In other words, one may assent to logical determinism in Bradley's sense, and yet be a libertarian.

II

What causes confusion here is the mixup between *logical determinism* and *causal determinism*. Libertarianism as usually understood means *causal libertarianism* and is opposed to *causal determinism*.

Logical determinism states its deterministic conclusion always in a hypothetical form. " If *a* is, then *a* is." " If there was *a*, then there was *a*." " If there will be *a*, then there will be *a*."

Causal libertarianism does not deny any of these statements. It does deny, however, that certain similar categorical statements of the following sort always have to be true :

" *a*, which took place, had to take place."

" *a*, which is taking place, has to take place."

" *a*, which is going to take place, will have to take place."

These categorical statements may often be true ; but there are, in the libertarian's view, important occasions when they are not true. This is so because of the way causes operate in the world, and does not depend on new or old laws of logic.

III

Bradley thinks that, in an effort to deny fatalism, libertarians deny logical determinism. This makes them, of course, logical libertarians. They are characterized by the fact that they deny the usual laws of logic, notably the law of excluded middle. Bradley ranks Aristotle among these alleged libertarians. But this is not correct ; Aristotle firmly believed in the law of excluded middle. The only denials made in this area by libertarians (including Aristotle) have to do with *modal* propositions, not with mere truth-functions.

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Libertarians affirm that for all propositions p, including those

about future contingent events, it is the case that either p is true or
not-p is true.   " Either there will be a seafight tomorrow, or there
will not " is true, and it is *necessarily* true, in the sense that this is an
analytic proposition.   But although this disjunction is a necessary
(logical) truth, neither of its components is a necessary truth.   One
of the component propositions is true (we do not know which one),
but it is not a necessary truth   That is, if this is true : " there will
be a seafight tomorrow," it is still not a necessary but a contingent
truth.   And if, as may be the case, it is true that " there will not be
a seafight tomorrow," this too would be a contingent, not a necessary
truth.

What is asserted is that

$$\text{necessarily } (p \text{ v} - p). \tag{1}$$

But if p and $-$ p are contingent propositions (*i.e.* propositions
about contingent events) from this it does not follow that

$$(p \text{ is necessary}) \text{ v} (- p \text{ is necessary}). \tag{2}$$

For the necessity of disjunction (1) is logical ; but the necessity of
disjunction (2) is causal and as such conflicts with the hypothesis
that p and $-$ p are contingent propositions.[1]   Note that the futurity
of p and $-$ p does not enter into the argument at all ; it applies
equally if the events referred to in p and $-$ p are in the past or in
the present, *as long as they are contingent events.*[2]

For example, let us illustrate this for a past contingent event,
arising from Caesar's decision to cross the Rubicon.

Necessarily (either Caesar crossed the Rubicon or he did not
cross the Rubicon).

Now we know that of these two propositions in the disjunction, just
one is true, namely,

Caesar crossed the Rubicon.

But this does not make it a necessary proposition ; *i.e.* it is not a
proposition about a necessary event.   The event—the crossing
of the Rubicon—remains contingent since it depended on Caesar's
decision.   He might have decided differently and hence the propo-
sition " Caesar crossed the Rubicon " might have been false.   But a
necessary proposition cannot possibly not be true ; only contingent
propositions can.   But it is still necessarily true that, if Caesar
crossed the Rubicon, then he crossed the Rubicon.   Again, this is a
mere logical truth.

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[1] This difference in the kind of necessities talked about by Aristotle
in the *De Interpretatione*, chapter 9 is pointed out by G. E. M. Anscombe
in " Aristotle and the Sea Battle ", MIND, No. 257 (January 1956), pp. 6-7,
12-14.

[2] My argument is the same as that made by Leonard Linsky in " Pro-
fessor Donald Williams on Aristotle ", *Phil. Review* (1954), p. 251.   Bradley
refers to the immediately following reply to this paper by Williams, but he
ignores Linsky's argument completely.

We ordinarily do not pay much attention to the contingency of past and present propositions, since we already know whether they are true or false. Because a contingently true proposition is not less true than a necessarily true one, it is usually of little interest to point to the contingency or necessity of past propositions except when we want to indulge in speculations such as what would have happened if Caesar had not crossed the Rubicon. All the emphasis in respect to past contingent propositions is on their truth (or falsity), with their contingency being a secondary and neglected property.

It is different with future contingent propositions. If p is a future contingent event, the truth value of the proposition which asserts that p is going to take place cannot be known, anymore than the truth value of the proposition that p is not going to take place. And this ignorance as to which is going to take place is intrinsic to the fact that p is contingent. It is not caused by a remediable lack of knowledge. Rather, my knowledge must be insufficient since the decision about p or − p has not yet been taken, i.e. the cause which can produce either p or − p has not yet acted. (If it has acted, the event is no longer a future, but a past or present, contingent event.) In this case, the contingency of the event combined with its futurity affects not indeed the truth-value of the proposition, but our ability to know this truth-value. We see this illustrated in Aquinas's view of how God can know future contingents. To God, all events are present since he is not in time but is eternal. Just as past and present contingent propositions have truth-values, so do future ones. Human temporal knowledge can know the truth or falsity of the former two ; God's non-temporal knowledge can know all three. (*Summa Theol.*, Part I, Q. 14, A. 13).

IV

What makes contingent events (and hence contingent propositions) possible are special kinds of causes, namely, causes that do not necessarily produce just *one* effect, but can produce one of several effects. I do not here go into details of this, beyond remarking that free will is usually cited as such a kind of cause.

If there are no such causes, if, in other words, all causes necessarily produce just one effect (so that *to cause* and *to necessitate* mean the same thing), then libertarianism falls down. It will still be the case that

$$\text{Necessarily } (p \vee -p) ;$$

but since there are no contingent events, either p or − p must be necessary, so that it follows that

$$(p \text{ is necessary}) \vee (- p \text{ is necessary}).$$

But note again that this is a consequence of the assumption that there are no contingent event, not merely of the logical truth that

$$\text{Necessarily } (p \vee - p).$$

26

V

Much of what Bradley says about " true now, " is, therefore, though interesting not relevant to his problem.   Where his discussion should have been longer, on the meaning of " it cannot possibly be otherwise ", he is too brief.   He distinguishes between logical and coercive necessity, but omits what is the only relevant necessity—causal necessity.

Thus his defence of determinism against the charge of fatalism fails.   His kind of determinism—logical determinism—is indeed safe from the charge.   But causal determinism is not safe, and that is why libertarians, in the interest of morality, have insisted that causal determinism is false.   The future is open, they say, not logically but causally, because we can decide one way or the other. What will be, will be, of course.   What what will be does not *have to* be, when it is a matter of human decision.

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*Hic autem non est procedere in infinitum : quia sic non esset
aliquod primum mouens ; et per consequens nec aliquod aliud mouens,
quia mouentia secunda non mouent nisi per hic quod sunt mota a primo
mouente.*

(St. Thomas Aquinas : Summa Theologiae I, q. 2, a. 3.)

The flaw in this argument is its use of the term *mouentia secunda*
in an attempt to prove the impossibility of an infinite series of causes.
For not until we know that such a series is impossible can we know
that all movers are properly described either as " a first mover " or
as " second movers ". This, however, is precisely what the argu-
ment assumes. It equates " movers other than a first mover " and
" second movers ". It fails to recognize the possibility of a third
class of movers, those, namely, which belong to an infinite series of
moved movers. Thus to presuppose the impossibility of the infinite
series in the premises of the argument is to commit *petitio principii*.

But why was the argument ever even plausible ? The reason,
I think, lies in a certain superficial analogy between the counter-
factual conditional " If there were no first movers there would be
no other mover " and other more humdrum counterfactuals which
we might often find ourselves framing. For example : " If she had
kept on the right side of the road there would have been no accident."
" If Queen Anne's death had not taken place so swiftly, George I
would not have obtained the crown." These may be taken as
examples of a generalization Aquinas was fond of uttering : " Re-
mota causa remouetur effectus." With our bias towards formal
logic we are impelled to distinguish : if the cause was a necessary
condition—*concedo* ; if only a sufficient condition—*nego*. This is to
complain : " No. The other car might have skidded and the accident
taken place just the same." Or " Other factors might have given
George the crown. Anne herself might have lived longer and begun
to favour the Whigs." But these are quibbles. In real life sufficient
conditions are not all that unnecessary. If R is a sufficient cause of
S it is always possible that, failing R, Q would nevertheless have done
the job and produced S. Possible, but not probable. There are
not endless alternatives of sufficient causes waiting to produce each
effect, endless possibilities of mishap predetermining a given accident.
Accidents, even road accidents, are the exception, not the rule. If
she had kept on her right side of the road the accident would not have
happened. *Remota causa remouetur effectus.* It may not be a truth
of logic, but it is a safe enough bet.

Nevertheless, in these cases the counterfactual can hardly be used
to prove the existence of the cause. George I's accession is not in
itself *evidence* for Queen Anne's sudden death. We say " If it
hadn't been for R there would have been no S " as another way of
saying " R caused S ". Ordinarily we do not use the expression in
a way that entails " There is no other possible explanation of S ".
Indeed, when we want to prove the existence of R we can hardly

begin " If it had'nt been for R " a phrase which refers to R, *i.e.*
assumes its existence. (For this type of counterfactual has the
curious characteristic of combining a " referring expression ", or true
logical subject, with verbs like " exist ", " occur ", " take place ".
" If R had not existed S would not have occurred." Because this
statement is counterfactual, *i.e.* implies that R *did* exist and S occur,
it can afford to refer to R and S, and " occur " and " exist " can
for once be true predicates.)

St. Thomas is able to misuse the analogy between " If she had kept
to her right side of the road the accident would not have occurred "
and " If there were no first cause there would be no other causes "
because, just as we know that, as a matter of fact, the accident
occurred because of her bad driving, so St. Thomas knew that all
things do in fact exist because of the first cause. Just as we, with
our eyes fixed on the actual circumstances of George I's accession,
say that but for Queen Anne's sudden death . . . etc., so St.
Thomas with his eyes fixed on the fact of divine causality says " But
for the first mover, there would be no other movers ".

The same is true, with slight alterations, of the Aristotelian passage
on which St. Thomas's argument here is based. The example which
he uses, the " lapis ", " baculus ", " manus " and " homo ", shows
that he believes himself to be reproducing the argument of *Physics*
VIII, 5. 256ª 4-21, and indeed the argument appears in a somewhat
expanded form in his own commentary on the *Physics* at this point
(*In Libros Physicorum*, 1040). (Whether or not Aristotle himself is
relying on the same argument is perhaps debatable. His explicit
proof of the impossibility of an infinite series is confined to the
sentence (256ª 18, 19) : τῶν γὰρ ἀπείρων οὐκ ἔστιν οὐδὲν πρῶτον.
Whether St. Thomas's expansion of this is justified by the context
others may judge.) Aristotle's discussion is influenced to a con-
siderable extent by the example he has chosen. The first mover, the
man, is indispensable, Aristotle remarks, in a way that the last
mover, the stick, is not. The man could move the stone without
the stick ; the stick could not without the man. True enough of
men and sticks, perhaps, but there are examples of indispensable
instruments, *e.g.* bulldozers, which Aristotle overlooks. It is because
Aristotle is attending to the actual man-stick-stone situation that he
says " If it were not for the man, the stick would not move the stone",
just as St. Thomas says " If it were not for the first mover, there
would be no other movers ".

This comparison with Aristotle provides our final point of interest.
The choice of example is not without justification. Aristotle is
discussing causality as exemplified by movement. Both moved and
unmoved movers are said to move, he says—ἄμφω δὴ κινεῖν φαμέν,
. . . ἀλλὰ μᾶλλον τὸ πρῶτον (256ª 8-10). He evinces a conceptual
preference for unmoved movers : uncaused causes are *real* causes.
Maybe this is due to our originally deriving our notion of causation
from ourselves as agents. Nevertheless the conceptual preference

exists; and indeed it shows itself in quite surprising places. On page 205 of MIND (April, 1959) Mr. R. D. Bradley argues that we must distinguish causal determinism from fatalism. The former, he says, claims " that the future will be what it will be solely because of what the present is " : the latter " that *what* the future will be owes nothing to what our actions at present are ". But on a neutral interpretation of causality the latter statement misrepresents fatalism. The fatalist does not deny that my actions are effective causes—my wielding of the chopper duly causes my grandmother's death, but asserts that they are *caused* causes—my wielding of the chopper is due to a bump on the head in infancy. And it is this rejection of the possibility of uncaused causes, free, personally chosen acts, which is indifferently called " causal determinism " or " fatalism ". Mr. Bradley is only able to characterize fatalism as teaching that the future owes nothing to our actions because he assumes that *really* to owe something to our actions the future must depend on those actions as on uncaused causes. He is suffering from an unadmitted conceptual preference for the uncaused sort of cause.

There is here an implicit analogy between the microcosmic uncaused cause (the free human act) and the macrocosmic (the act of God). Nor is this surprising. From Kant, if not earlier, to Dr. Farrer, philosophers have sought to lay the foundations of theism in an examination of the metaphysics (conceptual preferences ?) of free will. The plausibility of bad arguments, as in this case of St. Thomas, is often an index of conceptual preferences whose relation to metaphysics Mr. Strawson has recently illustrated (*cf. Individuals*, Introduction).

<div align="right">C. J. F. WILLIAMS</div>

REPLY TO PROFESSOR KÖRNER

PROFESSOR KÖRNER (MIND, October 1959) has found a gap in my argument for the existence of meaningful, factual, true-or-false, metaphysical statements. If this gap could not be filled, my argument would collapse. Fortunately, it can be filled. Indeed, by giving Körner's criticism a twist, I can actually strengthen my argument.

I had argued that there is a kind of statement which possesses, among others, the following characteristics : (i) it may be entailed by some empirical universal hypotheses ; (ii) it may be logically incompatible with some empirical universal hypotheses ; and yet (iii) it is neither genuinely confirmable nor disconfirmable (though it may be spuriously 'confirmed') by observation-statements. I largely relied on characteristics (i) and (ii) to establish that such statements have truth-values. But does not the possession of these two characteristics mean that such statements are indirectly related to, and controlled by, experience ?

Against this I argued that, on the assumption that empirically testable, universal hypotheses are in principle unverifiable (an assumption which Professor Körner rightly criticises me for taking for granted)—on this assumption, metaphysical statements entailed by, or incompatible with, such hypotheses are immune to observational discipline. Suppose we have an unfalsifiable metaphysical statement p entailed by a falsifiable but unverifiable hypothesis $p \cdot q$ and incompatible with another falsifiable but unverifiable hypothesis $\sim p \cdot q$. Then neither the truth nor the falsity of p follows from either the falsification or lack of falsification of either $p \cdot q$ or $\sim p \cdot q$, since $\sim (p \cdot q)$ does not entail $\sim p$, and $\sim (\sim p \cdot q)$ does not entail p, while nothing follows about the truth or falsity of p if we fail to falsify $p \cdot q$ and/or $\sim p \cdot q$. To give a homely example : ' Every murderer leaves some trace, which may be overlooked, of his identity ' (or ' The perfect murder is impossible ') might be true even if ' Every murderer leaves his finger-prints at the scene of the murder ' has been falsified, and it might be false even if ' Jack the Ripper left no trace of his identity ' turned out to be false.

But the situation would, of course, be entirely different if testable, universal hypotheses were verifiable. If $p \cdot q$ were verifiable, p would be verifiable ; and if $\sim p \cdot q$ were verifiable, p would be falsifiable.

Professor Körner does not deny that universal hypotheses are unverifiable. But he argues that they are unverifiable in principle only on a certain assumption—moreover, the explicit statement of this assumption turns out to be *a metaphysical statement of the very type whose existence my argument was designed to establish.* Thus my argument is circular in a vicious way. What comes out at the end comes out only because a part of it had been smuggled in at the beginning. ' His argument, therefore, depends on the assumption that the number of individuals in the universe is, in some sense of

the term, infinite. Considered as factual this assumption would have to be formulated in terms of at least one existential and one universal quantifier—and would thus in Watkins's view be a metaphysical doctrine ' (p. 548).

Now while the unverifiability of universal hypotheses does follow from the controversial assumption that the number of individuals in the universe is infinite, it also follows from an assumption which is both much weaker and also, I believe, undeniably true. Suppose that there were in the universe only seven individuals, all featherless. Would this render the law-statement ' Everything is featherless ' verifiable ? Certainly not ; for law-statements are open towards the past and future. There is always tomorrow ; and it may be that tomorrow one of these seven featherless individuals will grow feathers, in which case the tenseless law-statement, ' Everything is featherless ' would be false today. Thus the unverifiability of law-statements does not presuppose that there is an infinite, or even a large finite, number of things in the universe. It presupposes only that, to put it informally, there will always be a tomorrow, or, to put it slightly more formally, that every time-stretch has a successor. Actually, the unverifiability of law-statements presupposes only the still weaker assumption, ' Every time-stretch *may* have a successor ' (a point I owe to my colleague Dr. Agassi). Admittedly, this statement is a special case of an ' all-and-some ' statement. But it is not a *dubious* statement which a philosopher might plausibly reject as false or meaningless. The truth of ' Every time-stretch may have a successor ' is, I take it, simply undeniable. I, at any rate, shall be very happy if my argument for metaphysical statements collapses only on the assumption that time *will* come to a stop. Thus I can turn Körner's circularity charge to my own advantage. I can now say that it can be shown in *two* ways that genuine metaphysical statements of an ' all-and-some ' character exist : first, by providing an ungainsayable example (' Every time-stretch may have a successor ') ; and secondly, by proving, with the help of this undeniable statement, the existence of further metaphysical statements along the lines of my old argument.

2. Professor Körner prefers to interpret metaphysical doctrines as programmes or regulative ideals. One of the advantages I claimed for my own interpretation was that it explained why metaphysical doctrines may have a suggestive, regulative, or programmatic character, *and* why metaphysical disagreements appear to be factual disagreements, disagreements about what sort of world we live in. Thus my interpretation explains what Körner's explains, and something else as well.

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MACINTYRE in a book he edited called, *Metaphysical Beliefs*, wrote a section titled, " The Logical Status of Religious Beliefs ". This title is somewhat misleading for he wishes to confine his analysis to Christian beliefs and even more specifically to what might be called, " God talk ". There is no logical puzzle about a good part of biblical narration, *e.g.* David's conquest of Jerusalem or the love affair of Jacob and Rebecca. The puzzle begins with narration about God ; " God sees ", " God talks ", " God is a trinity ". How are we to construe this talk? Macintyre's position is that these are factual beliefs but that the logical status of these beliefs is different than that of other factual beliefs. What are the grounds he offers for this claim?

" If religious belief was the kind of thing that could be presented as the conclusion of an argument, we should either have too much certitude or too little for the belief in question to be a religious belief. For if we could produce logically cogent arguments we should produce the kind of certitude that leaves no room for decision ; where proof is in place, decision is not, *we do not decide to accept* Euclid's conclusions ; we merely look to the rigour of his arguments " (pp. 196-197, my italics).

Macintyre is mistaken. We do decide to accept Euclids conclusions based on the rigour of his arguments. The word, " decision ", refers to the end product of a process of deliberation. Whenever someone undertakes any form of deliberation and concludes that something is the case, that one thing follows another or that we ought to do this rather than that, we speak of his having reached a decision. In a subsequent passage Macintyre uses the words, " free decision ", and I suspect that what he means is freedom of choice. Freedom of choice, however, cannot apply to beliefs about God simply because it applies to actions and never to beliefs. It makes no sense to say, " I could have chosen to believe X instead of Y if I so desired ". The word, " decision ", either applies to both secular and religious beliefs or it applies to neither. If the word refers to the end product of a process of deliberation it applies to both and if the word refers to freedom of choice then it applies to neither.

" To believe that a past event happened is usually only reasonable if historical inquiry warrants the belief. But the essence of the New Testament claim, as we have seen, is that certain past events can be part of a religious belief, that is that they can be *believed in on authority*. And this means that while historical inquiry as to such events would always be legitimate *its results are not the ground of belief in any way*. That this is so can be understood by considering again the nature of religious belief. Since a belief in an historical event is always a factual belief, it is always *provisional* in the sense that new evidence as to the facts could always turn up. *But religious faith as we have always argued, is never provisional.* Nor do we find

Christian believers accepting the Resurrection conditionally or provisionally " (p. 207, my italics).

The points that Macintyre is making are : (1) That the criterion for deciding the truth or falsity of a religious belief is authority. (2) That religious beliefs are non-tentative.

The conclusion is that the logical status of religious beliefs is different from that of secular ones. . . .

(1) There is a certain ambiguity in these quoted passages. Is Macintyre merely describing the procedure religious people actually use to ascertain whether to accept or reject a belief without an affirmation on his part that that this is the proper method to be used? Or is he both describing the procedure and expressing a pro attitude towards it? It appears to me that he must accept the latter position if he is to talk about, " The logical status of religious beliefs ". The person who does not accept the unqualified authority of the Pope or the Bible would argue that these beliefs ought to be accepted or rejected by the usual canon of induction. The fact that Christians resort to an unqualified authority is clearly beside the point as to the logical status of these beliefs, for it is not the manner by which people accept or reject beliefs but the manner by which they ought to accept or reject beliefs which reveal the logical status of the beliefs.

Secondly, authority is always a secondary method of justification and presupposes a primary one. Upon authority one may accept a mathematical theorem, a scientific theory, an appraisal about a painting and a cook's recipe. How to distinguish ordinary from great paintings, good from bad recipes, true from false theorems is not a matter of authority. An appeal to authority is therefore no index to the logical status about which the authority is appealed to.

(2) In order to appraise Macintyre's second contention, we must distinguish three different uses for statements about tentativeness and non-tentativeness. There is (a) a descriptive use—when we describe how a belief is actually held, either in a provisional or dogmatic manner ; (b) a normative use—when we advise how a certain belief ought to be held either with caution or with full reliance on its being true ; (c) a logical use—this constitutes a statement as to whether experience has any relevance with regard to the truth or falsity of the belief. The word, " non-tentative ", here means immune from possible falsification by experience.

Macintyre appears to be arguing from the fact that religious people do not have a provisional attitude towards their beliefs to the conclusion that these beliefs ought not to be held provisionally. But we have merely to generalize this argument to see its weakness. Are we ever justified in arguing merely from the fact that people actually disregard what others consider to be evidence against their belief to the conclusion that they ought to do so? The consequence of such a position would preclude us from ever being justified in saying, " We have proven your belief to be false but you continue to believe it ". This statement would be justified only if there is

evidence damaging to a belief but the believer refuses to allow it to
count against his claim.

Secondly, even if it were the case that beliefs about God ought to
be held in a non-tentative manner (b) it would in no way prove that
the appropriate method for justifying these beliefs is different from
that of secular beliefs. This position would merely signify that
beliefs about God are so well grounded that any *prima facie* evidence
against these beliefs ought to be interpreted in such a manner as to
make them consistent with the truth of these beliefs. This, however,
is the case with many secular beliefs as well.

Perhaps Macintyre is arguing that since religious beliefs are held
in a non-tentative manner (a) therefore they are non-tentative
(c) in the logical sense. The same criticism which I had given before
will apply here as well. However, if beliefs about God were non-
tentative (c) in the logical sense then it would indeed follow that the
method appropriate for their justification is different than that of
secular beliefs. In this case, the question ought to be raised whether
they are beliefs at all. That is to say whether statements about
God are assertions.

What could someone who says, " God loves us ", possibly mean
by this statement if he does not consider suffering, diseases and evil
to be *prima facie* evidence against it being true? We would have
reason to doubt that his statement constitutes a factual claim.
Macintyre is caught in a dilemma. Only if religious beliefs were
non-tentative in the logical sense would it follow that the logical
status of religious beliefs is different than that of secular factual
beliefs. But then the question would arise whether talk about God
constitutes factual assertions at all.

What is this method of authority which Macintyre actually
considers to be the appropriate method for justifying religious beliefs?
He draws an analogy with sovereignty in the state. " Where
sovereignty resides is *by reference to rules which state what is to count
as law.* The rule in Great Britain, for example, is roughly : ' What
the Queen in Parliament says is law.' Such rules, by means of which
the sovereign power is defined, are not of course themselves utterances
of the sovereign power. Because they are the ultimate criterion of
law, they have no logical justification outside themselves.

The same can be said of religious authority. " What we mean by
an ultimate criterion is precisely that rule which lies at the base of
any argument over what the law is. The rule therefore beyond
which we cannot go. So it is with the defining rule or rules of a
religion. ' The Bible and the Bible only is the religion of the
Protestants.' ' What the pope defines *ex cathedra* on matters of
faith and morals are dogmas ' " (p. 198).

" The rule being an ultimate criterion is not to be justified by
referring to who has uttered it. That the Bible says that the Bible
is authoritative, that the Pope defines his own infallibility *de fide*

et moribus are in no sense justifications for accepting the Bible and Pope as authoritative " (p. 198).

" But why should we accept these cosmological pictures? How accept this authority on the truth of these cosmological pictures? Only presumably if we accepted all that he said not because of what he said but because it is he that said it. *If the authoritative criterion was uttered by someone who was accepted as completely authoritative* we should be able to explain how we came to accept a religion as a whole. It would have to be someone who was worshipped. We recognize him as God " (p. 199, italics my own).

Let us consider the analogy between sovereignty in the State and sovereignty of the Church with regard to dogma. It does not follow from the fact that a legitimate sovereign issued a command that it is a beneficial one. It does, however, follow that it is a law and hence obedience to it is obligatory even upon those who disagree with it. If this analogy is carried over to religion then the word, " beliefs ", would have a performatory use. From a religious authority proclaiming that something is the case it would not follow even for the members of this religious body that it is actually the case. What would follow is that any religious practices which are consequences of the belief are mandatory to members of the church and this would be the case even for those who do not actually believe in what was proclaimed. The analogy is misplaced simply because this is not a true characterization of the religious man's attitude to church dogma.

If Macintyre is recommending this attitude towards religious beliefs then it would follow that a religious belief is immune from falsification by factual evidence just as a law does not cease to be a law by virtue of the fact that it is a bad law. This is so only in the sense that the words, " religious belief ", signify a performatory usage. With regard to the question of its truth or falsity it is no different from a secular belief. Macintyre, however, says that he is not recommending how religious beliefs ought to be held but is describing how they are held.

Why then does Macintyre claim that factual evidence could not constitute a challenge to religious beliefs? The reason is that he believes that religious beliefs, unlike secular ones, are justified only on authority. The authority for religious beliefs is ultimately God himself acting through the medium of the Pope or the Bible. Does it follow, even granting this, that historical documentation and facts about the world constitute no possible challenge to accepted religious dogma? I think not.

Consider what is involved when someone states that he accepts a secular belief *a* on the authority of X. (1) That he has evidence that X is in a privileged position with regard to knowing whether *a* is true or false. (2) That he has evidence that X actually claimed that *a* is the case. (3) That X has grounds for believing in *a* though

he himself does not know and perhaps could not appraise X's grounds for believing in *a*. For if he knew the grounds for *a*, he too would be in a privileged position and would not need to resort to X's authority.

There are three reasons why he might later reject the truth of *a*. (R1) He may discover that X is not really in a privileged position to pass a judgment about *a*. (R2) He discovers that X never claimed that *a* is the case. (R3) He might later be in a privileged position himself and reject *a* on the basis of evidence.

If Macintyre is correct in his description of religious authority then it would be ridiculous to challenge (1) that God is in a privileged position to know whether a belief is true or false. For part of the way in which we characterize God is that he has this very privileged position. One might, however, challenge (2) whether the claims made in the Bible or by the Pope are actually claims made by God. Or question (3) and challenge specific beliefs in the Bible on the basis of factual evidence and historical documents. It is one's right to challenge (3) which Macintyre fails to appreciate and the reason for this is that it appears to him that one would have no ground for challenging specific beliefs in the Bible for the Bible is supposedly the word of God. Since it is absurd to challenge the authority of God in matters of belief it would follow that one has no right to challenge any specific assertions He makes. However, the point is that evidence contrary to specific beliefs in the Bible would not constitute a challenge to the authority of God in matters of belief but rather to the claim that the words of the Pope or the Bible are the words of God.

LEON PEARL

S. COVAL ON WORSHIP, SUPERLATIVES AND CONCEPT CONFUSION

S. COVAL, in a suggestive article,[1] (MIND, April 1959) proposes to
" indicate . . . new yet nodal points in the logic of the concept of
God " and to " say [something] about the theologians' traditional
stronghold of the unutterable ". I cannot accept that he has done
either of these things ; in this note I shall only be concerned with
his failure to do the first.

(1) *Approval, love, and worship.* To find something good, to like
it, is to be for it, to be committed to it. To like ; to love ; to
worship. . . . We have here, Coval implies, an ascending order of
degrees of commitment. He says that if you worship something
your degree of commitment has intensified compared with what it is
when you merely like it or approve of it. Worship implies total
commitment. So, he concludes, if I say I love, honour, cherish, or
worship something or someone it is nonsense to ask " But do you
approve ? " Now it is triteness itself to say that I cannot love some-
one without being in *some* sense for rather than against him. But
there are many senses in which I can " be for " someone, whereas
there would have to be just one sense, if Coval's ascending scale were
to be plausible. Consider the sentences : " I don't approve ; if it
comes to that, I disapprove ; I love him ". Coval tries to meet cases
like this by saying that in them " approve " must mean " approve
in some regard or regards ". But in this example it need and does
not. It means moral approval, of a person as he is, not just of one
aspect of him. In that case Coval believes the expression would
have no use. He gives the clumsy-sounding example " I love him
but don't approve of him in any regard whatsoever " and asks what
it could mean. But real-life examples can and do have a use. The
example I have given is the sort of thing we understand quite well,
and is moreover one of the things we accept as being appropriate if
the speaker is sincere in saying " I love him ". There may be a dispute
about whether being prepared to say it is a condition of sincerity
in saying " I love him ", but none about the meaningfulness of
saying it in such a case. It is intelligible, because " I love him "
neither entails nor presupposes " I approve of him ". There are
many cases where " I love him ", though it commits the speaker to
being for what he loves in some sense, rules out the suggestion that
he approves. To give detail : let us suppose the speaker is in a
situation in which actions of her husband are being discussed. She
is asked whether she approves of him, after it has been established
that he has done something reprehensible. She replies, using the
sentences I have been discussing, that both approval and disapproval
are inappropriate because she loves him. Approval is not part of

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[1] I say " sentences entail " as a convenient abbreviation for " The
statements normally made by the use of the sentences entail ". Similarly
with " presuppose ".

413

what she means by love. On the contrary it is irrelevant, and as a matter of fact she disapproves of *what he did*. The question whether she disapproves of *him* is ruled out by her statement that she loves him. But Coval wants it both ways. He makes the obvious point that approval, love, and worship all imply being " for in some fashion or other ", and yet wishes it to be in each case the same fashion, for he immediately continues : " To approve is to be less [for] than to love, and to worship is to be far more so than either ". But since, as my example shows, the commitment is not of the same kind in each case, it makes no sense to talk of more commitment in one case than in another.

Coval uses a throwaway example to clinch his argument : " (You aced him but did you win the point ?)" In the same way it is " silliness to pose : ' You worship . . . but do you approve . . . ? ' " To ace your opponent is to win the point, and win it in *one* superlative way. So, the suggestion is, to worship is to approve, in a superlative way. You can't win quicker than by acing your opponent ; you cannot approve more than in worshipping. But the change from " quicker " to " more " is significant. To ace is to win, but to worship is not necessarily to approve. A better example would be : You aced him but did you win the point elegantly ? Of course not ; acing rules out of the possibility of winning elegantly. There are many different ways of winning. Of course this example does not fully illustrate the case, because the most important thing about a point in tennis is who won it, whereas whether a speaker is for what he likes, favours, values, loves, or worships, though it can " always arise ", e.g. in a philosopher's mind, is generally uninteresting. These verbs are all pro-verbs, but what concerns us now is how they differ. And if Coval intends " approve " to mean " be for " in this un-interesting sense, then his example is all right, but his thesis is still false. For he is maintaining that there are *degrees* of " for-ness " or approval in his sense, in order to show that worship is the super-lative degree of it. But my example showed that there are different *kinds* of " for-ness ", of commitment, which in at least some cases are non-comparable. Another example shows up the kind of mis-take he is making. To call this a bluer book than that often makes sense. But there are circumstances in which it makes no sense. For example, if A is teaching young B what " blue " means and says to him " *This book* is blue ", and then C shows B another book and says " This book is bluer than that ", comparing the intensities, then what C says makes no sense. A and C are using " blue " in different though related ways, and in A's sense what C purports to compare are non-comparable, since there are no degrees of " blue " in his sense.

(2) *Worship and God.* Coval goes on to connect worship with God, and his account of the connection fails in a similar way, but for a different reason. His view is that to say " I worship God " to an absolute stranger is simply to repeat oneself, to say " I worship what

I worship "—thus making this expression similar to " In duty's path
go on ". The reason he gives is that all such words as " worship ",
" love ", " approve ", and so on, are grammatically transitive.
" You cannot just worship, period ". Curiously, he does not let this
insight prevent him from talking about worshipping, period. He
goes on to say : " To have a God means that you worship and vice
versa ". But even if this expression makes sense, which he has just
denied, the statement he makes with it is false. For there is no
logical mistake involved in saying " There is a God, but I will not
worship him ". Some will say there is blasphemy, others outrage.
But I believe that even philosophers need not yet confuse blasphemy
with fallacy. And it is even more foolish to suggest that " I worship
X " entails " I have a God ". The entailment holds if X stands for
" God ", not otherwise. And, as I have said, " I have a God " does
not entail " I worship X " even if X does stand for " God ".

The two mistakes I have pointed out are similar in that they both
seem to arise from pre-occupation with philosophical myths, and to
issue in linguistic dogmatism. The first myth is that in all cases
where we " value " something there must be some " common element"
present. Hence the view that this common element is present in
extreme form when we value something extremely, which is identified
with worshipping it. The second myth is that words and sentences
have just two uses, to give information and to evince or arouse
attitudes. Hence the view that " I worship God " conveys no
information unless you know the speaker already and so know what
sorts of attitude he is liable to evince or arouse. It is true that in
order to predict the statements people will make about their God,
should we ever wish to do so, it is useful, perhaps necessary, to know
something about their morality, and about other aspects of their
culture. But it is not sufficient. We also have to know what
connection they believe exists between God and morality, between
God and nature, and so on. And if we want to make these predic-
tions it is neither sufficient nor necessary to discover what they say
about what they worship, for they may worship other people or
things as well as or instead of their God. There is a connection
between " worship " and " God ", and it is stronger than the trite
entailment between " I worship God " and " God exists ". But it
is not simply the connection between a verb and its unique object,
as Coval maintains. It is much more complicated than that.

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IX.—NEW BOOKS

The Freedom of the Will. By Austin Farrer. London: Adam & Charles Black, 1958. Pp. xi + 315. 28s.

Neurophysiology studies minute events in the nervous systems of men and animals and offers theories explaining, and laws connecting, those events. If the whole action of man could be reduced to, and explained in, neurophysiological terms, one clear form of determinism—perhaps the only one—would, it seems, be established. Many philosophers can be found ready with arguments to show the impossibility of any such reduction, the absurdity of any attempt at it. Dr. Farrer's originality consists in not contenting himself with the production of such arguments. Instead he takes seriously the obligation to provide a positive account of the relation between human action and the minute events of physiology. Very baldly, his thesis is this. First, on the physical plane alone, mass effects in the organism, such as are involved in distinguishable human actions, will never be totally explicable solely by reference to the laws governing minute neurophysiological events. Large-scale nervous " patterns of physical functioning " would have to be invoked in any physical explanation ; or, as Dr. Farrer more picturesquely puts it, such " action-patterns ", like other higher forms of organisation, have " real power to bewitch the lower forms and lead them a new dance ". Second, the activation of a given action pattern, and the transition from one action-pattern to another, are not to be explained by any purely physical laws. They scarcely could be. For, says Dr. Farrer, the demarcation of action-patterns is logically dependent upon concepts of ordinary human actions such as we intentionally perform. Nervous action-patterns have no neurological names of their own. They are to be identified only as neurological patterns corresponding to ordinary human actions. It is not surprising that the modes of explanation of the activation of such patterns are independent of any which purely physical theory makes available ; are to be found in the ' because '-clauses ordinarily associated with the attribution of intentional action. Minute physiological events, then, are governed by physical law, but are not directly correlatable with conscious human intention. Nervous action-patterns are directly correlatable with conscious human intention but are not governed by physical law. The action-patterns provide the directing framework within which the microscopic regularities deploy themselves ; but they are not themselves deployed in accordance with any merely physical regularities.

Obviously this account cannot constitute Dr. Farrer's *grounds* for rejecting a determinism based on neurophysiology. It is, rather, a construction to be entertained by someone convinced on other grounds ; and not just any grounds, but grounds of a certain sort. Dr. Farrer's grounds are these. He finds it incredible that there should be a comprehensive system of laws relating neural and cortical activities and external physical stimuli such that every movement of our bodies (including our tongues and our pen-fingers) could be subsumed completely under these laws. The reason why he finds this incredible is that he thinks that, if it were true, consciousness would be denied any " physical effect or natural utility " ; and *this* is incredible. When he says that this is incredible, he means partly that we cannot bring ourselves to believe it and partly that it is contrary to the general economy of Nature. If I understand Dr. Farrer

rightly, he thinks it perfectly possible to understand what the development
of neurophysiology would have to be like in order for these incredible con-
sequences to follow quite clearly from that development ; but thinks that,
since the consequences are incredible, we can safely conclude that no such
development will occur. Many will think it quite as incredible that philo-
sophy can set any but logical limits to the development of any physical
theory whatsoever. Dr. Farrer examines and rejects one form of reconcil-
ing doctrine which has the consequence that it is not necessary to impose
any limits on the development of neurophysiology in order to avoid a
general conflict between neurophysiological conclusions and our ordinary
ways of thinking and talking about human behaviour. But he does not
consider this reconciling view in as many forms and with as much detailed
attention as it seems to deserve. Perhaps he should ponder further his
own dictum that " no more would (should ?) now be claimed for physical
theory than that it systematises the answers given by Nature to questions
we have thought of asking, or her reactions to tests we have been able to
devise ".

Such is the main theme of Dr. Farrer's first five chapters. The bald
outline does no justice to what is, in detail, and in incidentals, a most fertile,
ingenious, vigorous and entertaining discussion. He has fascinating things
to say about thinking, about the focusing of consciousness in action and
about other topics in the philosophy of mind. But as far as the argument
about neurophysiological determinism is concerned, I hope I have given
a fair summary of the main points.

The remainder of Dr. Farrer's book has less unity of thesis. Most of
the chapters are devoted to " the hand-to-hand fight " with the mis-
conceptions of psychological determinism. The fighting covers a large and
varied terrain. The determinist misrepresents now wishes, now motives,
now interest, as determining causes. He is unable to explain the fact that
the frame of mind in which we approach decision-making, consciously
form intentions, make deliberate choices, is essentially non-deterministic.
His counter-appeal to the fact that we are often able to understand, to
explain, to predict human conduct neglects the equally important fact that
" my ordinary understanding of my neighbour's speech and action " rests
on my own ability to make choices and decisions and perform intentional
acts, and is therefore " a non-deterministic understanding ". The deter-
minist naively misinterprets the significance of psycho-analysis and soci-
ology, falsifies the process of invention and can give no adequate account
of valuation. Although not all Dr. Farrer's arguments are of equal value,
he makes clever and interesting points on page after page of the discussion.
And yet there is something unsatisfactory about the whole procedure.
On page 297, when the fighting is declared over, Dr. Farrer asks, " What is
determinism ? " and we realise that he has never actually told us. He
has given us some phrases to go on with. The determinist is one who holds
that human action " exemplifies natural law ", " is determined by natural
law ", " is explicable by causes ", " is causally determined ", " is pre-
figured in antecedent events " (a favourite phrase, this), " is the outcome
of natural process ", " is analogous to physical process in its sequential
orderliness ", " is (in each case) a sequence which we believe to be such
that it could not have gone otherwise ", " is reducible to a combination
of determinate factors the joint effect of which could ideally be calculated ".
It can scarcely be held that it is quite clear what each of these phrases
means ; or that they are all clearly equivalent in meaning ; or that they
all clearly apply to the few, the very few, examples Dr. Farrer gives of

27

behaviour which is, possibly or certainly, not "free". With no wish
at all to be Philistine about generality in philosophical argument, yet I
think that more help should have been sought from cases, from examples,
from the principles on which we actually proceed when we say 'could
help' or 'couldn't help' or employ the many other related expressions
for the classification of pieces of human conduct.

As it is, the vagueness which attaches to "determinism" and to "deter-
mined" attaches also to "libertarianism" and to "free". Dr. Farrer
acknowledges as much in his last chapter. "If we have wrestled with the
sophistries of determinism, it was only to clear or liberate an actual con-
viction of our power, in some measure, to make ourselves." Our power
to make ourselves ? Such phrases have a legitimate use, and even a certain
validity, as expressions of attitudes or moods ; just as much have phrases
verbally opposed to them—

> So sind wir scheinfrei denn, nach manchen Jahren,
> Nur enger dran, als wir am Anfang waren.

If this is the level of conflict between libertarianism and determinism, it
cannot be settled by acuteness.

Dr. Farrer has excellent things to say in the philosophy of nature and
of morals as well as in the philosophy of mind. He writes with wit, clarity
and grace ; though some of his rhetorical devices (e.g. the use of 'she' to
refer to such objects as choice, invention, reflection and consciousness) have
a kind of charm which he may not quite have intended. Altogether this
is a very clever and entertaining book, from which any philosopher, or any-
one interested in philosophy, may expect to derive pleasure and instruction.
But it still leaves much to be done about the Freedom of the Will.

<div align="right">P. F. STRAWSON</div>

Nature and Historical Experience. Essays in Naturalism and in the Theory
of History. By JOHN HERMANN RANDALL, Jr. Columbia University
Press, New York, 1958. $ 5.50.

THIS is an interesting book, especially for the reader who, like Professor
Randall himself, has an eye for national characteristics in philosophy.
For over fifty years American philosophy has differed from English less in
respect of doctrines or methods than of style or mode of approach. On the
one hand, a number of leading American thinkers since Peirce have shown a
terrifying passion for formalisation in philosophy, whilst, on the other
hand, many distinguished American philosophers keep alive that element
of lay preaching which is unmistakable in James, in Dewey and in the
Americanised A. N. Whitehead. By contrast, English philosophy has
mostly remained middle-of-the-road academic in style and approach ;
excessive formalisation and undisguised preaching being alike offensive
to our narrow canons of academic good form. Often while reading Randall's
essays I have felt a kind of envy for the American public for which this
book is designed. Here is a philosopher who writes as seriously and as
wisely about religion as about natural science ; who can draw equally
sagaciously and knowledgeably from Marx and Dewey as from Aristotle ;
who can make shrewd, humane comments on our contemporary global
discontents and anxieties ; and who is entirely unashamed of being a
highly cultured man. At other times, however, I have been irritated—as

so many of us have been when reading Dewey and other American pundits—
by what seems to be just so much high-minded bumbling, so much direction-
less milling around with large problems, so much seemingly wilful confusion
of key questions which the author has previously distinguished, so that for
moments—but only for moments—I have wished I was reading one of
those Oxbridgian philosophers who, had they taken the right turning early
in life, would long ago have brought the filing and card-indexing systems
of the British Civil Service up to a new peak of perfection.

Randall's book is self-confessed " work in progress ". The essays fall
into two groups as the sub-title indicates, but there are two main bonds
which give them a definite unity. In the first place, Randall's theory of
history emphasises that all understanding (or, as many recent British
philosophers have urged, all explanation) in history depends upon the
generalisations and theories of the natural and social sciences that we have
to hand *now*. Secondly, both groups of essays exemplify the author's
explicitly Aristotelian methods. Roughly speaking, Randall applies a
version of the doctrine of the four causes in his theory of history, a version
of the doctrine of categories in his philosophy of nature. The results in
the latter case are illuminating ; Aristotle applied to John Dewey works
like bone manure on a straggling but sturdy crop, and some of Randall's
detailed applications of his method—especially his treatments of Mind and
Intelligibility and of Aesthetic Qualities—are genuine philosophical ex-
plorations which will repay careful study.

Randall's theory of history is more original and contains some very
interesting suggestions, but in the end, to my mind, it proves rather dis-
appointing. He takes a long time to tell us things which most British
students of the subject would readily agree to without much further argu-
ment : *e.g.* that every generation needs a new history of the topics that
interest it, since every generation is faced with new questions of its own and
reads back these or related questions into its own past : that history *per se*
explains nothing, least of all itself ; that determinist theories of history
are valid only so long as they are conceived as setting limits to what can be
done within a given situation, and so on. His own positive account of
what the " substance " of history is, of how it stands to the factors that
determine it, and of how a knowledge of history helps to illuminate present
problems, seems almost to have slipped through his fingers—certainly it
slipped through mine. But no doubt Randall has more work in progress
on this important issue. Again, I find his account of " history as lived
through " curiously one-sided, in an American way curiously over-intellec-
tualised. History for Randall is a succession of problems solved or half-
solved : surely one should add, as he does not—or shirked. Every his-
torical event is for him, as for Collingwood, the outcome of thought or
decision, and successful decision always depends upon possession of the
relevant know-how. I feel tempted to say, rudely, that this may be true
of American history, but it is certainly not true of all history. But, in
fact, it is easy to draw from American history examples that serve to
correct Randall's error here. To what extent did Lincoln's achievements
depend upon his possession of relevant know-how? It certainly depended
upon a lot of other things, in particular upon his being the kind of man who
could be made into a national hero and eventually a national myth.

This comment suggests a more general thought with which I will con-
clude. Randall writes from an extraordinarily wide knowledge of human
history and in particular of the history of ideas. It seems to me that the

width of his intellectual sympathies has given rise to a personal intellectual outlook which is in many ways out of line with dominant American attitudes. The result is a vein of sadness, sometimes amounting to sourness, that runs through his book. On the other hand, this conflict, which is of course so characteristic of many of the best American minds, also contributes greatly to the book's interest. Many students of American philosophy will undoubtedly rise from reading it wiser and perhaps a little sadder—and one must hope only a little bumblier—men the morrow morn.

W. B. GALLIE

The Early Reception of Berkeley's Immaterialism: 1710-1733. By HARRY M. BRACKEN. Martinus Nijhoff, The Hague, 1959. Pp. xii + 123 (paper covers). 9.50 guilders (about 18s.).

BERKELEY was the most original philosopher of his century. He was the first in modern times to appreciate fully the importance for philosophy of questions about meaning. So, for instance, he says explicitly that the proposition from which his most famous metaphysical doctrine flows is one which can be known to be true " by any one that shall attend to what is meant by the term *exist* when applied to sensible things ". He saw not only that philosophers are especially liable to talk nonsense but also how they may come to do this, namely, by transferring words that make perfectly good sense in other contexts to contexts where they make none (*cf.* Moore and Wittgenstein). He claimed that the source of a good many mistaken theories in philosophy, science and mathematics was a mistaken theory of meaning (*cf.* Alexander Bryan Johnson, Wittgenstein), and his criticism of this theory is valid against any attempt to identify the meaning of a word with some private mental entity (*cf.* Wittgenstein again). His account of the meaning of scientists' statements about unobservables anticipates Mach. He drew attention to the importance for philosophy of the fact that words may be used purely to raise passions or to excite to or deter from action, and an observation that he did not think worth publishing (" I ask any man whether when he tells another that such an action is honourable and vertuous . . . this be not his full purpose namely that these words should excite in the mind of the hearer an esteem of that particular action and stirr him up to the performance of it ") is the heart of Ayer's, Stevenson's, and Hare's account of ethics. His arguments to show the meaninglessness of the representative theory of perception and of the scepticism that arises from it are perhaps the nearest thing in the whole of philosophy to a knock-down refutation of an important theory.

Yet most of this part of Berkeley's work was ignored; and for two centuries his philosophy was regarded merely as an incredible fantasy rooted in extreme scepticism. Slowly and one by one his most valuable discoveries were made again by philosophers who had no idea that Berkeley had been ahead of them; and Mach, Moore, Wittgenstein and Stevenson got the credit that Berkeley should have had.

Dr. Bracken's monograph illuminates one aspect of this curious history. How was it that so much that was commonsensical and positive in Berkeley should have been neglected in favour of the fantastic and the sceptical ? Dr. Bracken thinks that the one-sided account of his

philosophy current in the eighteenth and nineteenth centuries may have been shaped by some very early reviews and notices. He mentions eighteen early notices of Berkeley not listed in Jessop's bibliography, as well as articles in Chambers' *Cyclopaedia* that quote or paraphrase Berkeley; and he gives in an appendix extracts from the articles in Chambers and the full text of five of the notices. His most important results may be summarized as follows. On the continent a notice in a Jesuit journal got Berkeley a name for fantastic metaphysics and for scepticism right from the start by treating him as a " Malbranchiste " and associating him with solipsism. Influenced by this notice Christoph Matthaeus Pfaff in 1722 made Berkeley the chief target in an attack on solipsism, called him a sceptic and (adopting Wolff's terminology) an idealist. The French Encyclopedia took over Chambers's account of Berkeley on bodies and described him as having tried his best to establish solipsism. In Britain the Chambers articles (1728, and many later editions), though they alone among these early notices mention Berkeley's criticism of abstract ideas, also concentrate on the sceptical elements in his philosophy and fail to give his answer to scepticism. These articles are often referred to by Andrew Baxter in his *Enquiry* (1733; three editions by 1745). (Dr. Bracken's chapters on Chambers and Baxter were published in the *Journal of the History of Ideas*, 1956 and 1957.) All the notices quoted by Dr. Bracken, except one, say that Berkeley *denied the existence* of bodies, and though some of them say that he intended his work as an answer to scepticism none of them actually reports how his answer went.

I think that Dr. Bracken makes a fair case for the importance of these early notices in forming opinion on the continent and possibly among plain men in Britain. A man who had read these notices or their derivatives and had not read Berkeley, or had just skimmed him, might well conclude that the core of his philosophy was the denial of the existence of bodies ; and Wolff, Chambers and the *Encyclopédie* were fairly widely read. I think, however, that as a source of misunderstanding of Berkeley the almost universal bewitchment of men's minds by the representative theory of perception derived from Descartes and Locke was probably far more important than the notices Dr. Bracken cites. And I doubt whether they had any significant effect on the very influential comments made on Berkeley by Hume and Reid and Kant. It is possible for someone who has a *deep* understanding of Berkeley to call him an unwitting sceptic or a subjective idealist. For there are three stages in the understanding of Berkeley's most famous thesis, and the last and deepest stage " repeats in a modified form the verdict of the first " (*cf.* Warnock, *Berkeley*, p. 223. Compare disputes over whether Hume denied causality). At the first stage is the reader (*e.g.* Beattie) *who has paid no attention to Berkeley's claims, first, that he is not denying the existence of bodies but only saying in what their existence consists and, second, that by " exists in a mind " he means only " is perceived by a mind "*, and who thinks " Berkeley holds that the only things that exists are minds and ideas in minds : he denies the existence of bodies ". Next comes the reader who has considered these claims *and accepts them as true :* at this stage Berkeley appears as a " stout common-sense realist ". At the third stage of understanding are those who, *having thoroughly considered Berkeley's claims*, yet say that he *does* deny the existence of bodies in the ordinary sense of " bodies " (that is, things that could exist even if there were no minds at all), and that some of his arguments only make sense if the ideas in the mind with which he identifies bodies are sensations, as private and subjective as

pains. I think that Hume and Reid reached this third stage of under-
standing (but see R. H. Popkin, " Did Hume Ever Read Berkeley ? ",
Journal of Philosophy, 1959). If Turbayne is right (*Philosophical
Quarterly*, 1955) Kant did too. A man who has reached this stage would
not have been helped to it by the common run of the notices Dr. Bracken
deals with, even though in describing Berkeley's philosophy he might use
the same words as a man at the first stage of understanding.

Dr. Bracken is very good at detecting distortions of Berkeley, though
he does not always present them, or indeed his case in general, as clearly
as he might. He is bibliographically thorough and exact. One minor
point : on page 12 Dr. Bracken calls the theory that secondary qualities
have no existence without the mind " Lockean ". Locke's account of
secondary qualities is sometimes verbally inconsistent but his general
intention is reasonably clear. According to him secondary qualities are
really in objects ; it is the *ideas* of secondary qualities that exist only in
the mind.

<div align="right">GEOFFREY HUNTER</div>

The Way Things Are. By P. W. BRIDGMAN. Harvard University Press,
    1959 (O.U.P.). Pp. xii + 333. 45s.

" IN this book ", writes Professor Bridgman at the start, " I try to find a
place for various insights which I have been acquiring over the years."
These " insights " (or claims, he might have said) are meant to back his
conviction that it is high time we came to a better understanding of our
intellectual tools and that we are all inept " in the way we handle our
minds " (p. 1). This at first sounds fair enough, though it is puzzling that
he should cite Runes's *Treasury of Philosophy* as pertinent to the generaliza-
tion.

The book is new writing, not a collection of things previously published.
His six substantive chapters take up words and analytical method,
operationism, logic and probability, method and particular concepts in the
physical sciences, the introspectionist-behaviorist dispute and the thesis of
" atomic analysis " (sometimes called materialism) in psychological theory,
and then " social implications ". The procedure is more informal than
neat. But the thread, not tightly drawn, is the notion which he re-
peatedly puts in the form " We cannot get away from ourselves ". In-
tellectual enterprise, whether in the various sciences or philosophy or in
government and social practice, is done by people and done most conspicu-
ously in words. We bring with us in our concepts and methods certain
pervasive blindnesses and illusions, which get recorded in our words without
our becoming the more aware of them.

Perhaps the most noteworthy claims in support of this conviction are
the following. (1) Methods of observation and measurement, while
giving our descriptions their meaning, also either introduce elements of
their own, or impose barriers to comprehensive description, or do both.
In psychology in particular, our describings become subject themselves to
further describing. In general, a threat of infinite regress forces us to
doubt the very sense of a phrase like ' all that there is ' or ' as it really is in
itself '. This is not Kantianism but a sort of operational pluralism.
Yet there is only one world, the-world-for-me. Laplacian determinism,
with its supposition that we can speak of the state of all the particles in the

universe, violates the limits of the concepts we know how to employ.
(2) Our use of nouns leads us into reifications (' field ', ' particle ', ' future ',
' duty ', ' value '). Often, too, we use words as conceptually terminal
(' particle ') where there may be the possibility of further inquiry and of
new concepts. (3) There is no precise correspondence between empirical
operations and " paper-and-pencil " or formal ones, so that syntactical
devices must in principle introduce a special kind of uncertainty into
empirical " results ". (4) A number of important words (like ' aware ',
' think ', ' mind '—see chapter VI) have introspective meanings as their
original or primary ones, with public or shared ones as ancillaries bestowed
by projection or me-to-you analogy. A number of others (like ' value ',
' belief ', ' guilt ', even ' proof ' which he sometimes calls essentially private)
have a " balance " of the two, with tensions arising between them. Accord-
ingly we often feel more sure than we ought, what we are talking about.
(There are mistakes even in our handling the future tense, for we do not
introspect our own futures.) Moreover, we subscribe to a lot of nonsense in
social pressures and political exactions, as though there were anything
more than what individuals feel and experience—a more, for example,
like a super-person, or like duties and rights and powers unhoused in
personal breasts.

Bridgman's remarks on techniques and concepts in physics may be
left to the experts (although there is enough for any careful reader to query,
for example the use of the explosion-wave illustration on pp. 164-165,
or the paradoxical portrayal of what might be meant by the discontinuity
of space and time, pp. 146-148). What will strike philosophical readers
as moot, is Bridgman's fallibilism, presupposing that all statements are
like those with indefinitely numerous implications within a codified physical
science (pp. 56-75); or his " pragmatic " justification of induction although
he rejects justification inductively (p. 115); or his recognition of context,
with conditioning and expectation, although he tries to reduce the future and
past to the present (chapter III); or his apparent belief that one can show
that there are things for which language is inadequate (pp. 33, 222); or his
espousal of private meanings and introspection in the grand old paradoxical
sense, while insisting (p. 239) that there is no way of my telling whether I
am correct introspectively; or his use of the " operation of projection "
(the resurrected argument from analogy) and his logic in supposing that
atomic states of tissues *could* be correlated with introspective states to
make both public (p. 304); or his notion, clearly a fallacy of accident even
if his privacy thesis were granted, that formal proof is essentially a private
matter (pp. v, 56, 78, 85-88). What is perhaps most puzzling is why he
himself is puzzled by critics who have labelled him solipsistic (see pp.
246-247). Incidentally there is, in his argument, exactly that assimilation
of necessary privacy to contingent or managed privacy, which is charac-
teristic of solipsistic writers.

The argument is best, and so is the style, when he discusses technical
points in physics. Elsewhere, one can suspect that logicians, mathe-
maticians, psychologists, social theorists, lawyers, legislators and moralists
must either take him lightly, or find too lax his permitting himself, in the
way he so often does, " the luxury of a few remarks " (see p. 297).

If the book is not philosophical, what is it? But if it is, then it suggests
an indifference to the detailed, precise and telling work done in many
philosophical fields in the last quarter-century.

C. D. ROLLINS

Brücke und Tür. Essays des Philosophen zur Geschichte, Religion, Kunst, und Gesellschaft. By GEORG SIMMEL. K. F. Koehler Verlag, Stuttgart, 1957. Pp. xxiii + 281. 9.80 D.M.

THOUGH sociologists, especially in America, are paying some attention to Simmel, his work as a philosopher is almost completely ignored in the Anglo-Saxon world. He died in 1918 with a high reputation in Germany, but he is not mentioned in, for instance, Passmore's *A Hundred Years of Philosophy.* This is regrettable for though, perhaps, he did not revolutionize the conception of philosophy, in the manner of a Kant or a Wittgenstein, he contrived to say many illuminating things, from within his post-Kantian tradition, about a very wide range of important topics.

In this volume Michael Landmann has collected together twenty-eight articles most of which were previously available only in periodicals. They range over the philosophy of history, the nature of culture, religion, aesthetics and sociology. Simmel's approach to these matters gets its unity from a discussion of the nature of philosophy and its relation to the basic cultural forms in which human existence expresses itself. The leading conception in this discussion is a dichotomy between subject and object which, it must be said, sometimes functions as a philosophical strait-jacket and which certainly demands closer analysis than it receives here. But that is not to say that it is never illuminating ; it is so for instance in the analysis of the notion of the " meaning " which an individual may try to give to his own life and its relation to the " culture " of the society in which he lives. Simmel tries to show that this relation, which is a prototype of what he understands by subject and object, necessarily involves a tragic tension. For while the individual's search for a meaningful existence can only take place, or, indeed, be conceived, in the context of some concern with the demands of cultural forms such as art, religion or philosophy, yet on the other hand these forms have an internal logic of development of their own, whose demands may so displace a participant's personal centre of gravity as to prevent his achieving any sort of meaningful harmony from the conflicting elements of his own nature.

Simmel's aesthetic discussions are striking for the light they throw on the relation between philosophy and art : a relation which he emphasizes in his own account of the nature of philosophy. There is, for example, a paper on the aesthetic significance of the human face, the explicit concern of which is with the treatment of the face in painting but which is also highly relevant to the general philosophical problem of the relation between soul and body. Similarly, his analysis of the relation between the dramatic actor and the rôle which he portrays sheds light on the philosophical question of what is meant in general when we speak of men having a relation to reality.

It is to be hoped that Simmel will soon find a translator and publisher in this country. There is a wealth of material waiting, not just in the essays under review, but perhaps even more in the longer discussions contained in such volumes as *Philosophische Kultur.*

<div style="text-align:right">PETER WINCH</div>

Theology of Culture. By PAUL TILLICH. Oxford University Press. 18s.

THIS is a small collection of short essays, most of which have already been published in rather inaccessible periodicals. The most relevant to philosophy are those in Part I of the book, which is headed " Basic Considerations".

In a foreword, Professor Tillich says that "the religious dimension is never absent from cultural creations, even if they have no relation to religion in the narrower sense of the word". Cultural creations include philosophical and scientific writings, as well as literature in the familiar sense and works of art. These things or their makers are religious "in the broadest and most basic sense" according to Tillich, in so far as they have *depth*—the religious dimension. Depth is the same thing as ultimate concern, or ultimate seriousness, or unconditional seriousness. It seems to consist in, or at least to be entailed by, the attempt to get at the truth —or do what is right, or make things of artistic worth—no matter what the consequences to oneself may be. That, or something like it, is religion in the broad sense, and according to Tillich it is theistic ; for the study of the depth of cultural creations is the *theology* of culture.

The obvious objection is that it seems absurd to call people theists just because they are ultimately serious. Tillich's rejoinder, if I understand him, would be that ultimate seriousness needs only "the overcoming of estrangement" to become consciously theistic. In other words, although some ultimately serious people will strongly object to being called religious believers, they would no longer object if their estrangement from God were overcome. The overcoming seems to be a Hegelian *aufhebung*; the estrangement is preserved as well as cancelled for the estranged one remains estranged from God even though he comes to be at one with God ; I do not understand this. At any rate, this upheaval is not to be produced by arguing for God's existence in the Thomistic way, cosmologically. If one goes about it in that way, God remains a stranger. What is needed is the Augustinian or ontological solution, which involves immediate knowledge or awareness of God.

The ontological solution is not an argument for the existence of God, Professor Tillich says. "It is neither an argument, nor does it deal with the existence of God, though it often has been expressed in this form. It is the rational description of the relation of our mind to Being as such " (p. 15). Nevertheless, Professor Tillich's presentation of the ontological solution on pages 12 to 16 does in fact seem to be an argument, though perhaps not a very convincing one. True, the conclusion is not that God exists. The argument is out to prove something much less widely believed, namely that we presuppose God's existence in every question and statement; including the question whether God exists and the statement that he does not. Professor Tillich speaks of presupposing God or of God being a presupposition rather than of presupposing God's existence, but to presuppose God is surely to presuppose that there is a God, that something is divine ; though it is not to presuppose that God is a spatial or temporal thing. The argument seems to have two phases. In every question and statement we presuppose that there is such a thing as the truth ; but the truth is God. Then God can also be identified with Being, which is not a being but the power of being, displayed by all beings—and in our thinking we inevitably presuppose Being. This last contention seems to be based on the idea that the copula asserts Being (" S is P ") as opposed to the widely-held view that a subject-predicate proposition contains only those two constituents, the " is " being a part of the predicate.

These arguments do not seem very impressive, and it may be that one should turn to Tillich's longer works for better examples of his argumentation. A literal identification of God with truth or the truth is hard to take seriously. *The* truth is surely the set or conjunction of true

propositions (things propoundable) and truth is definable as the property
which a given proposition " S is P " has if and only if S is indeed P.   Some
people reject these widely-held views, but even they may find it hard to
swallow the suggestion that the truth or truth literally *is* God.   The
figurative description of Christ as the truth hardly helps.   For one thing,
analogy is one-way, so that it by no means follows that " The truth is
Christ " or " The truth is God " have even figurative appropriateness.
Besides, even if " The truth is God " were a good metaphor, it would not
follow that looking for the truth was like looking for God, much less that
it *was* looking for God.

As for Being, the trouble surely is that we do not quite know what
Being is, though it certainly is neither truth nor the truth.   Leaving aside
the question of presupposition ; are we to understand that God is what
unicorns and the Eiffel Tower have in common ?   Some of Professor
Tillich's statements suggest that he means by " Being ", the power to
persist in space and time or time alone ; a power possessed (only ?) by
things which do so persist.   There is something suspect about this ' power ',
though, for surely it is essential to the notion of power that a thing can
be said to have the power to do x, at a time when it is not actually doing x.
Otherwise, having the power to do x just *is* doing x ; and " God is the
continuing of continuants " would make God merely the longest event.   Is
it, then, that unicorns and babies yet unconceived *have* the power to
exist, and that this power is God ?

Some of the later essays in this volume may interest readers who do not
care very much for the early ones.   For instance, the article called " The
Conquest of Intellectual Provincialism : Europe and America " says some
instructive things about the outlook of German academic refugees in the
thirties.

<div style="text-align:right">J. M. HINTON</div>

Gesammelte Schriften, Band X, *System der Ethik*.   By WILHELM DILTHEY.
  B. G. Teubner, Stuttgart, 1958.   Pp. 125.   10.80 D.M.

THIS volume contains the text of a hitherto unpublished set of lectures on
ethics which Dilthey delivered in 1890 ; for students of his philosophical
development its publication is clearly important, since his other main
writings on moral philosophy date from the beginning of his career twenty-
five years earlier.   The general standpoint adopted is naturalistic : ethics
for Dilthey is mainly a study of moral psychology, and much of the text
consists accordingly in an analysis and classification of the moral emotions
and impulses, together with an account of their origin.   As in other
spheres, Dilthey finds it necessary to say why he cannot accept alternative
forms of naturalism, and this explains the prominence he gives to a
critique of Utilitarianism, a philosophy which struck him as unsatisfyingly
abstract.   Though Dilthey himself gave the title System of Ethics ' to
his manuscript, it would obviously be unfair to regard it as anything like
a comprehensive or finished work.   But it would not be unfair to describe
the whole project as more ambitious than successful.   One has the im-
pression throughout of an intelligent man, encyclopaedic in his interests
and often acute in his historical perceptions, struggling to get a constantly
burgeoning mass of material into systematic form, and only rarely achiev-
ing the degree of clarity necessary to entitle his results to serious notice
in their own right.

<div style="text-align:right">W. H. WALSH</div>

An Enquiry into Goodness and related concepts; with some remarks on the nature and scope of such Enquiries. By F. E. SPARSHOTT, Toronto, University Press. (London, Oxford University Press), 1958. Pp. 304. 45s.

THIS is an interesting book, despite one serious fault which it seems best to mention summarily at once. It is far too long and practically every section is weakened by discursiveness. Incongruously, the numerical paragraph scheme, in the manner of Wittgenstein, leads one to expect the logical rigour which the book lacks.

Sparshott begins by explaining and justifying linguistic analysis along the usual lines. Professional philosophers will probably skip this part without loss. There follow preliminary chapters commenting on diverse views from Plato to Hare and setting out some of the most familiar problems about goodness. Some sections in this first part (*e.g.* the discussion of Religion and Ethics) are excellent.

The main contention of the book is formulated at the beginning of chapter vi as follows : "To say that 'x' is good is to say that it is such as to satisfy the wants of the person or persons concerned." Sparshott is aware that the notion of 'wants' may give trouble. He indicates that he is using 'wants' as equivalent to 'needs' and that a need is to be interpreted as a deficiency. Unfortunately, the long and careful elaboration of his case is unconvincing, because its central concept is never fully examined. Sparshott never gets to grips with the plain difficulty that the concept of a need is partly an empirical and partly a non-empirical one. We judge people's needs both with reference to the aims, conscious or unconscious, which they in fact have, and with reference to the aims we think they ought to have. Sparshott recognises that we have to discriminate in order to discover anyone's true needs. This must be achieved by " reaching an agreed decision of the standards to be applied in his case " (p. 138). Wants can be " more important than others " (p. 147), " relevant " (p. 147), " essential " (p. 168), but no satisfactory explanation of these terms is given. There is a most unplausible attempt to define 'important' as " whatever makes a considerable difference to the person or group of people one has in mind ".

It is a great pity that the argument is not more stringent at this critical point. In consequence, the examples given to show that things are good in virtue of ministering to wants become increasingly unacceptable the more evident the non-empirical element in our ascription of the relevant wants. A car is good if it meets the wants of 'car-fanciers'. " Good deeds and good things to do are such as to fulfil all or the most important wants of agents or patients " (p. 152). " A good man is such as to satisfy the wants of the persons concerned " (p. 179). " To say that God is good is then to say that, taken by and large, He tends to satisfy needs and fulfil desires rather than to fail and thwart them " (p. 155). The perennial difficulty about naturalism cannot be evaded in this way.

The failure to deal adequately with needs is the more regrettable because a thorough account of our conception of a fulfilled human being would have been most valuable. Such an analysis would have to reckon both with the empirical and the non-empirical aspects of 'needs'. It would be extremely odd to make recommendations about the good life which took no account of existing, empirically discoverable, human aims ; yet moralists and prophets help us to grade and modify these aims.

After comparing his proposed analysis with the views of other philosophers, Sparshott distinguishes goodness persuasively but not originally from obligation and related concepts. In the concluding section, he works out the implications of his view for connected problems, such as how to weigh the merits of different cultures. The yardstick recommended here is, consistently enough, the extent to which a society satisfies the wants of its members.

Sparshott seems to have been strongly influenced by Hare and Nowell-Smith. He declares quite rightly that his approach differs from Hare's in not making the function of commendation essential to the word ' good '. One may want to criticise their emphasis on commendation and choice (e.g. for misrepresenting aspects of a good life which do not consist in making or being capable of making right decisions). Nevertheless, it does seem to fit the facts precisely where Sparshott's formula based on the satisfaction of wants does not.

The zest and expansiveness which pervade this book are both attractive and exasperating.

<div align="right">J. H. S. ARMSTRONG</div>

The Inquiring Mind. By GEORGE BOAS. Illinois : The Open Court Publishing Company, 1959. Pp. 428. $4.50.

THE author of this book, now Professor Emeritus at the Johns Hopkins University, puts forward a pragmatic point of view and he acknowledges the influence upon him of such philosophers as John Dewey, Royce and A. O. Lovejoy. Any reader who is not at home in such company, but who is well versed in that contemporary philosophy of detailed analysis where precision and fine distinctions count for so much, will find the reading of the book a rather irksome task. He is somewhat blithely invited to regard as interchangeable such very different terms as ' express ' and ' refer to ' (p. 80), and a little later urged to reject a perfectly good dictionary definition of fact in favour of the following repugnant one—" what is believed to have really happened or to have been the case " (p. 81). In addition, he must learn to do a few mental gymnastics with the concept of experience, in particular to personify experience and regard it as something that can ' grow ', ' correct itself ', ' codify ' and ' recodify ', ' guess ' and ' experiment ' (p. 325). Finally, he will have to tolerate a very puzzling view of logic which is variously described—once as the crystallisation of history (p. 323). If the reader takes such hurdles as these in his stride he may complete the course and grasp the book's main trend of argument. The free style in which the book is written, and its many imprecise and metaphorical expressions, may be due in part to the fact that it comprises a set of lectures in which the author, a historian of philosophy, sets out in a very general way the epistemology which he finds tenable.

In these Paul Carus lectures Professor Boas explicitly rejects the view that the acquisition of knowledge is a purely contemplative matter, and holds that knowledge invariably takes the form of an answer to a problem which the inquiring mind raises in the face of what confronts it in experience. Problems arise, and questions are asked, when we are confronted with something which deviates from the norms of our accepted categories, modes of identification, classification and explanation. These categories, modes of identification and so forth, are not found already

stamped upon whatever stands ' out 'here ', but have been formed by abstraction from particular situations. This means that we are liable to be surprised at any point in experience by recalcitrant elements which our accepted orders, systems, modes of explanations and so on, cannot accommodate just as they stand. It is at such points that problems arise, and answers are produced and knowledge extended when our conceptual scheme has been modified to meet the circumstances. The answers take the form of judgements which, when true, correspond with the facts. But how can we be sure that we have got the facts, and that our judgements are true ? The criterion which Boas offers is consistency, not logical consistency however, but consistency of expectation with what we meet in experience. Boas's views seems to be that our knowledge, and the conceptual scheme that goes with it, gives rise to expectations in certain concrete situations—expectations which are expressed in our beliefs or judgements—and that such expectations can be either fulfilled or frustrated. If they are fulfilled then we have a case of consistency and the relevant judgements are true, if not we have inconsistency and false judgements. Boas thinks that by stressing the importance of the rebuffs that we get in experience he is securing an objective anchorage for truth, but his stress is no less on the importance of the conceptual schemes which our questions presuppose. Boas also considers at length the different types of explanation by means of which people have tried to extend and integrate their knowledge, though he denies that there can be any complete integration such as monist philosophers have sought.

It is in his handling of historical material that Professor Boas comes into his own, and his most cogent arguments are those directed against certain aspects of theism and against Idealist monism. Some chapters, especially those on perception, facts and individuation, contain much that is questionable. What, for instance, are the unconscious assumptions which, according. to Boas, are involved in perception ? Surely, an assumption is not a form of behaviour at all and is not therefore the sort of thing that can be classified as conscious or unconscious. To assume that x is the case is simply to proceed as though x were the case, and the assuming is not itself an extra process, conscious or unconscious, which takes place a!ongside the other. In spite of the fact that this book contains a wealth of interesting examples with which Boas illustrates the points of his positive argument, those points are not expressed precisely enough, nor argued in sufficient detail, to be convincing.

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Received also :—

J. M. Bochenski, *Die Dogmatischen Grundlagen der Sowjetischen Philosophie*, Dordrecht, D. Reidel Publishing Co., 1960, pp. 84.

E. Castelli, *L'Enquête Quotidienne*, London, Presses Universitaires de France, 1959, pp. 134, 800 N.F.

W. A. Christian, *An Interpretation of Whitehead's Metaphysics*, New Haven, Yale University Press (London : Oxford University Press), 1960, pp. ix + 419, £2 8s.

A. Deregibus, *Il Razionalismo di Morris R. Cohen*, Turin, G. Giappichelli, 1960, pp. x + 339, L. 2600.

Descartes Discourse on Method, new translation by A. Wollaston, Penguin, 1960, pp. 192, 3s. 6d.

Descartes, Meditationes de Prima Philosophia, Lateinisch-Deutsch, Hamburg, Felix Meiner Verlag, 1960, pp. xxix + 166.

John Dewey and the Experimental Spirit in Philosophy, ed. C. W. Hendel, New York, Liberal Arts Press, 1960, pp. vi + 119, $3.

E. R. Emmet, *The Use of Reason,* London, Longmans, 1960, pp. x + 236, 10s. 6d.

L. Feuerbach, *Manifestes Philosophiques,* Paris, Presses Universitaires de France, 1960, pp. 237, 12 N.F.

A. Campbell Garnett, *Ethics,* A critical introduction, New York, The Ronald Press Co., 1960, pp. v + 526, $5.50.

R. A. Gauthier, *L'Éthique a Nicomaque,* Tome II Commentaires, Louvain, Editions Nauwelaerts, 1959, pp. 434, 900 F.B.

Q. Gibson, *The Logic of Social Inquiry,* London, Routledge & Kegan Paul, 1960, pp. x + 214, £1 4s.

R. Harré, *An Introduction to the Logic of the Sciences,* London, Macmillan & Co. Ltd., 1960, pp. viii + 180, £1 1s.

J. Hartland-Swann, *An Analysis of Morals,* London, George Allen & Unwin Ltd., 1960, pp. 208, £1 5s.

R. S. Hartman, *La estructura del valor,* Buenos Aires, Fondo de Cultura Economic, 1960, pp. 333.

G. W. F. Hegel, *Fenomenologia dello Spirito,* 2 vols., Firenze " La Nuova Italia " Editrice, 1960, pp. 364 + 309.

M. Heidegger, *Vom Wesen und Begriff der " PHYSIS " Aristoteles Physik B* 1, Milan, Istituto Editoriale Cisalpino, 1960, pp. 109, L. 1200.

Immanuel Kant Foundations of the Metaphysics of Morals, translated with Introduction by L. W. Beck, New York, Liberal Arts Press, 1960, pp. xxv + 92, 80 cents.

C. De Koninck, *The Hollow Universe,* Oxford University Press, 1960, pp. 127, 12s. 6d.

E. Leroy, *La Pensée Mathématique Pure,* Paris, Presses Universitaires de France, 1960, pp. viii + 390, 20 N.F.

N. Lobkowicz, *Das Widerspruchsprinzip in der neueren Sowjetischen Philosophie,* Dordrecht, D. Reidel Publishing Co., 1960, pp. 89.

J. H. M. M. Loenen, *Parmenides Melissus Gorgias,* Assen, Royal Van Gorcum Ltd., 1960, pp. 207.

E. H. Madden, *The Structure of Scientific Thought,* Boston, Houghton Mifflin Co., 1960, pp. 381.

C. B. Martin, *Religious Belief,* Cornell University Press (London : Oxford University Press), 1960, pp. 168, £1 4s.

A. Mercier, *De l'Amour et de l'Être,* Louvain, Nauwelaerts, 1960, pp. 193, 160 F.B.

K. S. Murty, *Revelation and Reason in Advaita Vedānta,* Waltair, Andhra (New York : Columbia University Press), 1960, pp. 365.

Plato, *Gorgias,* a new translation by W. Hamilton, Penguin, 1960, pp. 149, 3s. 6d.

M. Polanyi, *Beyond Nihilism* (Arthur Stanley Eddington Lecture), Cambridge University Press, 1960, pp. ix + 37, 3s. 6d.

Problèmes de la Construction du Nombre by P. Greco, J. B. Grize, S. Papert and J. Piaget, Paris, Presses Universitaires de France, 1960, pp. 217, 9.50 N.F.

P. Rossi, *Storia e storicismo nella filosofia contemporanea,* Milan, Lerici Editori, 1960, pp. 517, L. 3.000.

E. W. Schipper and E. Schuh, *A first course in Modern Logic,* London, Routledge & Kegan Paul Ltd., 1960, pp. xviii + 398, £1 8s.

F. Schneider, *Die Hauptprobleme der Erkenntnistheorie*, Munich, Ernst Reinhardt Verlag, 1960, pp. 112.

G. Siewerth, *Das Schicksal der Metaphysik von Thomas zu Heidegger*, Einsiedeln, Johannes Verlag, 1960, pp. xxiii + 519.

W. Spoerri, *Späthellenistische Berichte über welt, Kultur und Götter*, Basel, Verlag F. Reinhardt, 1959, pp. 274.

J. Stolnitz, *Aesthetics and Philosophy of Art Criticism*, Boston, Houghton Mifflin Co., 1960, pp. 510, $6.95.

Theories of Scientific Method : the Renaissance through the 19th century by R. M. Blake, C. J. Ducasse and E. H. Madden, Seattle, University of Washington Press, 1960, pp. 346, $6.50.

C. A. Viano, *John Locke*, Genoa, Giulio Einaudi, 1960, pp. 618, L. 4000.

W. A. Whitehouse, *Order, Goodness, Glory* (Riddell Memorial Lecture 31), published for Durham University by Oxford University Press, 1960, pp. 83, 9s. 6d.

G. Abrahams, *The Chess Mind*, Penguin, 1960, pp. 346, 5s.

R. G. Andry, *Delinquency and Parental Pathology*, London, Methuen & Co. Ltd., 1960, pp. xv + 173, £1 1s.

P. H. Berkowitz & E. P. Rothman, *The Disturbed Child*, New York University Press, 1960, pp. vii + 204, $4.

C. J. Biedma and P. G. D'Alfonso, *Die Sprache der Zeichnung*, Bern, Verlag H. Huber, 1959, pp. 109, D.M. 24.80.

M. A. MacConail, *Bodily Structure and the Will*, London, Aquin Press, 1960, pp. 28, 2s.

G. Murphy, *Human Potentialities*, London, George Allen & Unwin Ltd., 1960, pp. viii + 340, £1 5s.

Personality and Persuasibility by various authors, Yale University Press (London : Oxford University Press), 1960, pp. xiv + 333, £2.

K. L. Pike, *Language in relation to a unified theory of the structure of human behaviour*, Glendale, Calif., Summer Institute of Linguistics, 1960, pp. vii + 146.

C. Westropp & M. Williams, *Health and Happiness in Old Age*, London, Methuen & Co. Ltd., pp. 133, 8s. 6d.

E. L. Allen, *Christianity among the Religions*, London, George Allen & Unwin Ltd., 1960, pp. 159, 18s.

C. Bunker, *Struggle to Return*, London, Peter Davies, 1960, pp. 232, 18s.

J. Campbell, *The Masks of God*, Primitive Mythology, London, Martin Secker & Warburg Ltd., 1960, pp. viii + 504, £1 15s.

H. Cantril & C. H. Bumstead, *Reflections on the Human Venture*, New York University Press, 1960, pp. xvi + 344, $6.50.

Catullus Odi et amo, the complete poetry of, translated with an Introduction by R. A. Swanson, New York, The Liberal Arts Press, 1960, pp. xvii + 128, $1.

P. Clemoes, *The Anglo-Saxons*, London, Bowes & Bowes Ltd., 1960, pp. 322, £1 15s.

J. N. East, *Personal Quest*, London, Psychic Press, 1960, pp. 254, £1 1s.

E. H. Gomorich, *Art and Allusion*, New York, Pantheon Books, Inc., 1960, pp. 466, $10.

P. Hessert, *Introduction to Christianity*, A dynamic examination of a living faith, London, George Allen & Unwin Ltd., 1960, pp. ix + 383, £1 10s.

C. Humphreys, *The Way of Action*, London, George Allen & Unwin Ltd.,
    1960, pp. 195, 18s.
H. de Lubac, *The Discovery of God*, London, Darton, Longman & Todd Ltd.,
    1960, pp. 212, 18s.
Plutarch's quotations compiled by W. C. Helmbold & E. N. O'Neil, American
    Philological Association (U.K. : B. H. Blackwell Ltd.), 1960, pp.
    xiii + 76.
T. A. Roberts, *History and Christian Apologetic*, S.P.C.K., 1960, pp. xiii +
    178, £1 5s.
Albert Schweitzer, A Study of his Philosophy of Life by G. Langeldt, London,
    George Allen & Unwin Ltd., 1960, pp. 119, 12s. 6d.
Turning Points in Physics by various authors, Introduction by Q. C.
    Crombie, Amsterdam, North-Holland Publishing Co., 1960, pp. 190,
    12s.

X.—NOTES

An international Symposium regarding the works of Nicolò Cusano will
take place at Bressanone (Bolzano) from July 21st to July 23rd, 1960,
organised by the Faculty of Education of the University of Padua.

The following Professors have assured that they will participate in the
meeting : E. Colomer, B. Decker, M. de Gandillac, C. Diano, E. Garin,
H. Hallauer, R. Haubst, J. Koch, B. Nardi, E. van de Vyver, P. Wilpert.

Persons that are interested in this meeting should apply for further in-
formation to the Segreteria della Facoltà di Magistero, Università di Padua
(Italy), or to the Segreteria dei corsi estivi della Università di Padova,
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CONTENTS

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